

November 2022 and February 2023
Operational Case Study
2019 CGMA Professional Qualification
Full post exam support materials

Below is the full post-exam supporting material for the operational case study exam.

Pre-seen material

November 2022 and February 2023 Operational Case Study pre-seen can be found [here](#)

Examiner's report

The November 2022 and February 2023 examiner's report can be found [here](#)

Exam variants

- Variant 1 can be accessed [here](#)
- Variant 2 can be accessed [here](#)
- Variant 3 can be accessed [here](#)
- Variant 4 can be accessed [here](#)
- Variant 5 can be accessed [here](#)
- Variant 6 can be accessed [here](#)

Suggested solutions

- Suggested solutions for variant 1 can be accessed [here](#)
- Suggested solutions for variant 2 can be accessed [here](#)
- Suggested solutions for variant 3 can be accessed [here](#)
- Suggested solutions for variant 4 can be accessed [here](#)
- Suggested solutions for variant 5 can be accessed [here](#)
- Suggested solutions for variant 6 can be accessed [here](#)

Marking Guidance

- Marking guidance for variant 1 can be accessed [here](#)
- Marking guidance for variant 2 can be accessed [here](#)
- Marking guidance for variant 3 can be accessed [here](#)
- Marking guidance for variant 4 can be accessed [here](#)
- Marking guidance for variant 5 can be accessed [here](#)
- Marking guidance for variant 6 can be accessed [here](#)

If you need any further information please contact us [here](#)

Operational Case Study Examination
November 2022 - February 2023
Pre-seen material



Contents

Your role	2
Company background	3
FireWorks' ethos.....	4
The industry	5
Extract from the FireWorks website: Our products	7
The Directors	9
Management in key departments	10
Extract from the employee induction manual.....	12
Overview of the manufacturing process	12
Day two quiz	15
Other information about company operations	16
Financial statements for the year ended 30 June 2022.....	19
Budget information for the year ending 30 June 2023	22
Articles	28
Tax regime in Beeland	30

Your role

You are a Finance Officer working within the Finance Department of FireWorks. You are principally involved in the preparation of management accounting information and providing information to managers to assist with decision making. At times, you are also expected to assist with the preparation of the financial statements and answer queries regarding financial reporting and other financial matters.

Company background

FireWorks is a company that designs, manufactures and sells a range of outdoor grills. The company is based in Beeland, a country in Europe which has the B\$ as its currency. The products that FireWorks sell are moveable stand-alone grills that can be located wherever the user wishes in an outdoor setting.

FireWorks was founded in 1984 by David and Debbie Wheeler after they had experienced the widespread outdoor grilling, eating and socialising lifestyle in North America, while on holiday. Prior to founding FireWorks, David was an executive in marketing and Debbie was a production manager in a metal works company. After receiving an unexpected inheritance, David and Debbie decided to invest in a small manufacturing plant and formed FireWorks.

David and Debbie were both passionate about food and the great outdoors and wanted to inspire others to experience the pleasure of the dining and entertaining outdoor lifestyle. At the time, few inhabitants of Beeland owned (or even knew anyone that owned) an outdoor grill. They identified a gap in the market for quality, easy-to-use grills.

The first of FireWorks' grills, launched in 1984, was a simple but high-quality design, fuelled by charcoal. It was sold through specialist outdoor furniture retailers and large garden centres, all based in Beeland. As 1984 had a particularly good summer, sales were healthy and, as the product was of high quality, FireWorks established a good reputation. The following year saw a marked increase in sales and greater awareness of the FireWorks brand.

As the concept of outdoor cooking continued to gain in popularity in Beeland, FireWorks expanded the range of products it offered. In 1998, a gas-fuelled grill was added to the FireWorks range. More recently in 2018, an electrically-powered wood pellet grill was added to the range.

With only a few exceptions (due to recession or exceptionally bad weather), FireWorks has experienced sales growth every year since its foundation. In 2018, David and Debbie retired and the task of running the company was handed to their youngest child, Catherine Wheeler, who spent her early career as a qualified chef working in top restaurants throughout Europe. Prior to taking over, Catherine had worked at her parents' company for 4 years. She has many ideas for the future direction and growth of the company.

Currently, FireWorks operates from three sites which are located within 10 kilometres of each other: Head Office, Production Facility and Distribution Centre. The company does not operate any retail outlets. In 2021, FireWorks sales volumes were split: 68% through retailers in Beeland, 20% direct to customers in Beeland through the FireWorks website and 12% to third-party agents based in other countries.

In the year to 30 June 2022, the company's revenue was B\$76.5 million, gross profit was B\$32.2 million, and profit before tax was B\$6.9 million. During that year, the company sold 192,500 grills. On 30 June 2022, the company had 316 employees. All employees live and work in Beeland.

FireWorks' ethos

FireWorks' current aim is to create grills that will enhance the outdoor eating experience. As a professionally trained chef, Catherine Wheeler wants the company to be at the forefront of all outdoor cooking trends in Beeland. She often states that the business is about creating opportunities for hospitality and friendship and not just metal welding.

Catherine's vision is to enable the people of Beeland to socialise outdoors, while enjoying a vast range of food, perfectly cooked on a FireWorks grill. The advertising for FireWorks always includes the phrase, "FireWorks for delicious food".

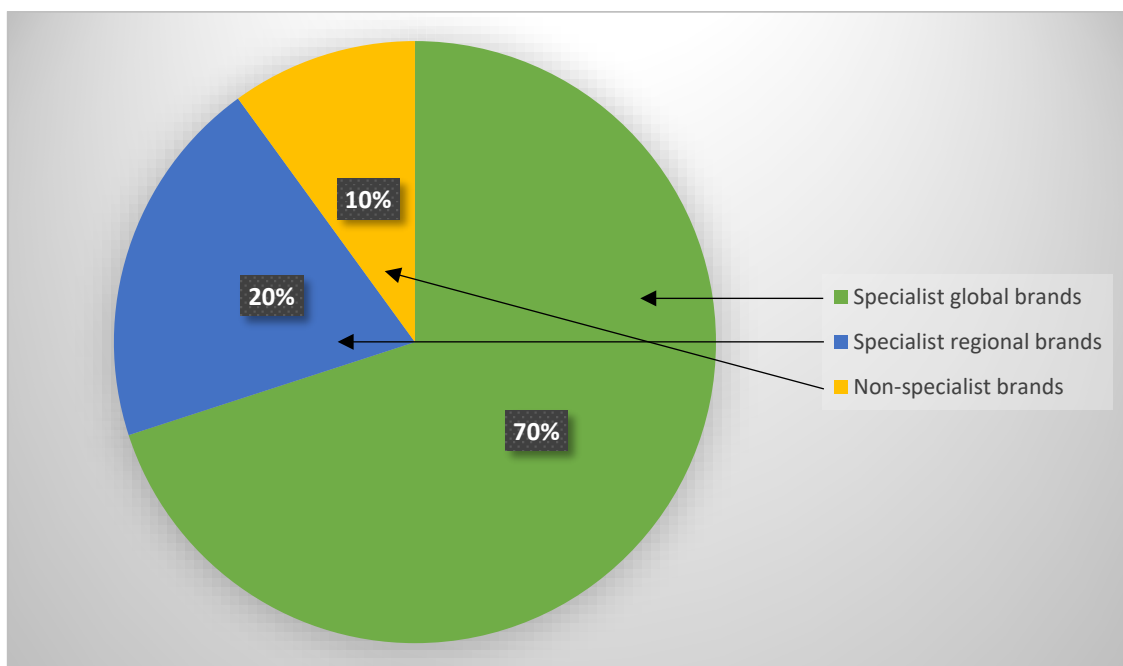
Catherine is also concerned with sustainability and ensures that the raw materials used in production are ethically and sustainably sourced. Relationships with suppliers are seen as important to FireWorks' success. The company aims to be carbon neutral within 6 years and is continually striving to improve its supply chain, manufacturing processes and outward logistics to get closer to this.

The industry

The global market

In 2021, consumers spent the equivalent of B\$7.5 billion on outdoors grills and accessories across the globe. By far the largest market, with an equivalent of B\$2.85 billion of sales (38% of the global market), was the United States of America. Other countries that have extensive outdoor grilling cultures are Argentina, Australia, Brazil, Canada and South Africa, where sales are strong. In 2021, sales in Beeland were worth the equivalent of B\$0.55 billion.

The global market for grills is dominated by specialist grill brands that design, manufacture and sell only outdoor grills and accessories. In 2021, global sales of grills and accessories was split as follows:



Specialist global brands: There are four specialist global brands. These brands originated, and are still based, in the United States of America. They sell their products globally.

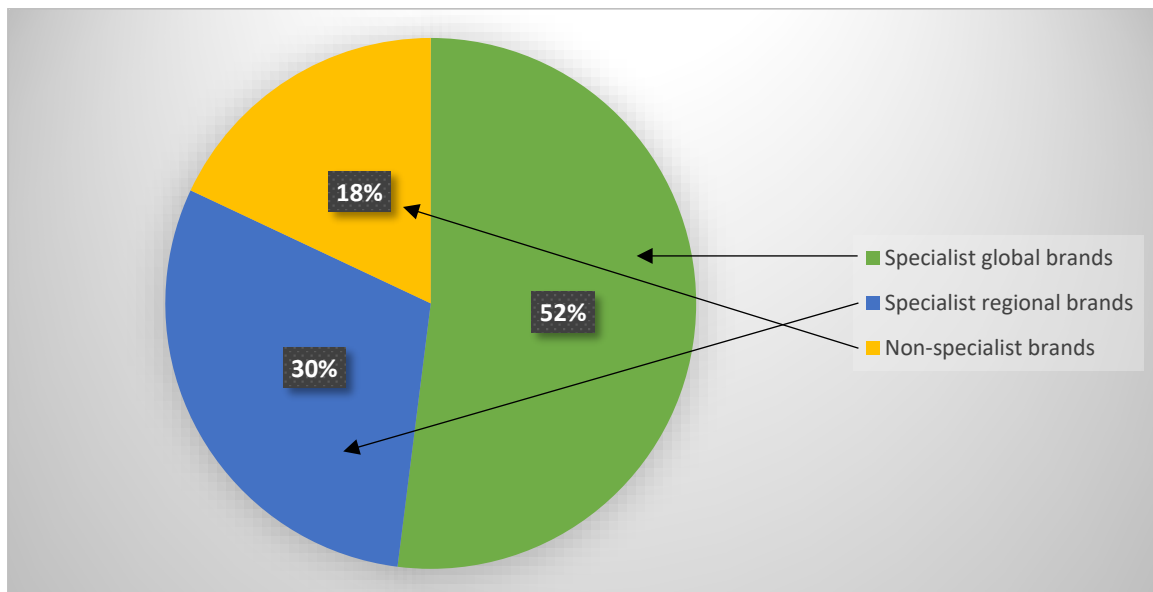
Specialist regional brands: There are 14 specialist regional brands. Each of these brands focusses its sales efforts in particular regions of the world and do not have a global sales presence. These brands originate and are based across the world (with three in the region of Europe, one of which is FireWorks).

Non-specialist brands: A non-specialist brand refers to any brand that includes grills as part of their product offering. These include Do-It-Yourself (DIY) retailers that offer 'own-label' grills.

None of the 18 specialist brands operate their own retail stores, although they do all have their own on-line sales channels.

The market in Beeland

In 2021, sales in Beeland were worth the equivalent of B\$0.55 billion and were split as follows:



The four specialist global brands are less dominant in Beeland, where they have a 52% market share as opposed to their global 70% share. There are three specialist regional brands that sell within Beeland, and FireWorks is the largest of these in terms of sales value. Non-specialist brands have greater influence on the market in Beeland than they do in the rest of the world. One reason for this is that Beeland consumers are more price sensitive and are, unlike consumers elsewhere, less inclined to be swayed by brand names.

In 2021, 32% of grills were sold through on-line sales channels (either direct to consumers from the brand or from retailer websites) in Beeland. The other 68% were sold in retail stores. As this is a significant purchase for most consumers, they will research their purchase carefully before making their final selection. This will include visiting at least one store to inspect and touch the grills on offer.

Future prospects

The Beeland market for sales of grills is expected to grow on average by 5% a year over the next 5 years. Potential reasons for this include:

- An increasing interest in outdoor cooking.
- Continued development of grills to embrace digital technologies, including precision temperature systems and temperature probes linked to smartphone apps.

Extract from the FireWorks website: Our products



We manufacture our grills in our own Production Facility. Each grill starts with a cook-box (a base and a lid), which we create from high-grade stainless steel and coat in premium porcelain enamel to protect against rust and corrosion and to give our unique one colour finish. To each cook-box, we add components such as legs, bezels (metal rings that are placed beneath the control dial), dials and the all-important cooking grill plates. Each of our grills is fitted with the best components available and designed to provide the ultimate outdoor cooking experience.

Click on one of the buttons below to find out more about our range of gas, charcoal and electric grills or our range extensive range of grill accessories.



Gas grills



Charcoal grills



Electric grills



Accessories

Customer warranty

FireWorks has an industry-leading parts and labour warranty on all grills.

- The grill cook-box is guaranteed for 10 years. If your cook-box shows signs of rust or burn-through within 10 years, we will replace the grill completely free of charge.
- All other components of your grill (including handles, legs, wheels, bezels, control panels, cooking grills) are guaranteed free of fault for 5 years. In the unlikely event of your grill developing a fault, we will replace or repair the faulty part free of charge.

At FireWorks, our grills are manufactured to such a high standard that we can offer this industry leading warranty with confidence and pride.

Gas grills

Fit your gas bottle and you are ready to grill with one of our gas-fuelled grills. We offer you two models:

Firecracker

- Our premium gas grill model
- Available as Small or Large

Crackerjack

- Our basic gas grill model
- Available as Small or Large

Charcoal grills

Add your charcoal and you are ready to grill with one of our charcoal-fuelled grills. We offer you three models:

Spinner

- Our premium charcoal grill model with extra lid vents and a large cooking space

Rocket

- Our mid-range charcoal grill model with lid vents and a mid-sized cooking space

Sparkler

- Our smallest charcoal grill model without lid vents and with a small cooking space

Electric grills

The newest grill to our range, launched in 2018, our electrically-powered Wheel grill, allows you to grill, smoke, bake or simply cook. A Wheel grill is effectively an outdoor oven with the ability to lightly smoke your food with the use of flavoured wood pellets. The beauty of the Wheel is that once the temperature is set, the grill can be left to its own devices, unlike a conventional gas or charcoal grill, where somebody needs to stand over the grill.

Wheel

- Our premium electric grill model
- Available as Small or Large

Accessories

We offer you a full range of outdoor grill accessories including grilling tools (tongs, spatulas and turners), secondary grilling racks, cooking gloves and aprons. We also offer a range of grill cookbooks and our own range of charcoal.

The Directors



Managing Director: Catherine Wheeler

Youngest child of the company founders, Catherine trained as a chef, working in world renowned restaurants. Since joining the company in 2014, she has immersed herself in all aspects of the business. She is responsible for the company's future direction, product development and growth. She is keen for the company to innovate in order to consolidate its reputation for grills which produce delicious food.



Finance Director: Ben Bruce

Ben has worked for FireWorks for 12 years. He started as a Finance Officer and gained his CIMA qualification while working full time for the company. Although Ben has limited experience in other companies, his innate business acumen and technical expertise meant that the board voted unanimously in favour of his promotion to Finance Director in 2021.



Production Director: Mavis Jones

Mavis is a qualified engineer who worked for two other metalwork companies before joining FireWorks in 1994. Mavis has overseen the production of all models of outdoor grills during this time and has an encyclopedic knowledge of every aspect of production. Mavis also helped to establish the relationships that FireWorks enjoys with key suppliers to the production process.



Sales & Marketing Director: Sebastian Roft-Shar

Seb was elected to the board shortly before Ben Bruce. He was employed as Sales Manager by David Wheeler, with whom he worked closely for over a decade. Seb attends numerous trade fairs and industry events and has extensive contacts and loyal customers. Seb believes that FireWorks is in a position to expand and increase its market share.



Human Resources Director: Jayne Bevin

Jayne joined the company in 2016. She is responsible for ensuring that the human resource plan supports the company's long-term goals. She recruits suitably qualified staff, oversees all induction programmes and has written the company's HR handbooks and protocols. Jayne works very closely with Ben and Mavis.

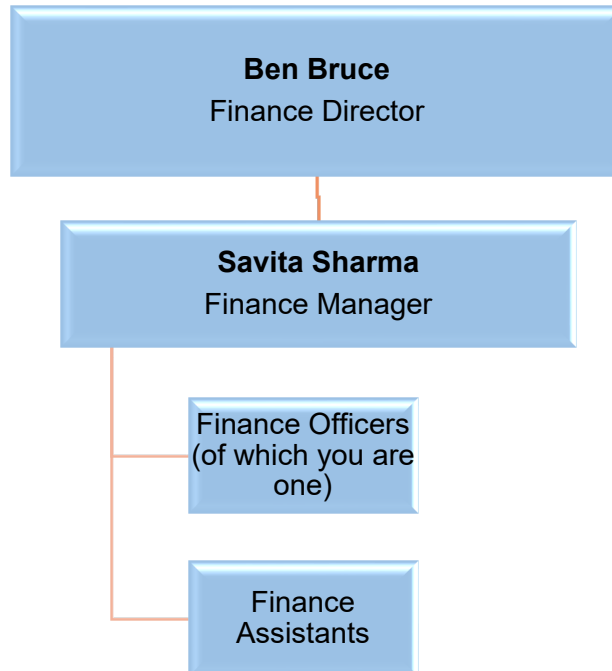


Distribution & Logistics Director: Jack Lyons

Jack has been in charge of distribution and logistics at FireWorks for over 15 years. During this time, the demands of customers have increased in complexity and volume. Jack is responsible for warehouse operatives, drivers and logistics administration. He also maintains the contracts with the many courier companies used by FireWorks.

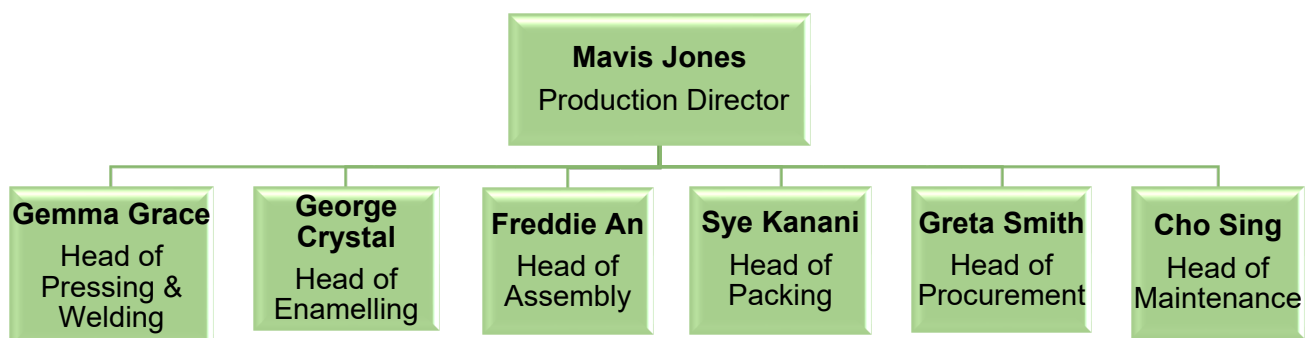
Management in key departments

Finance



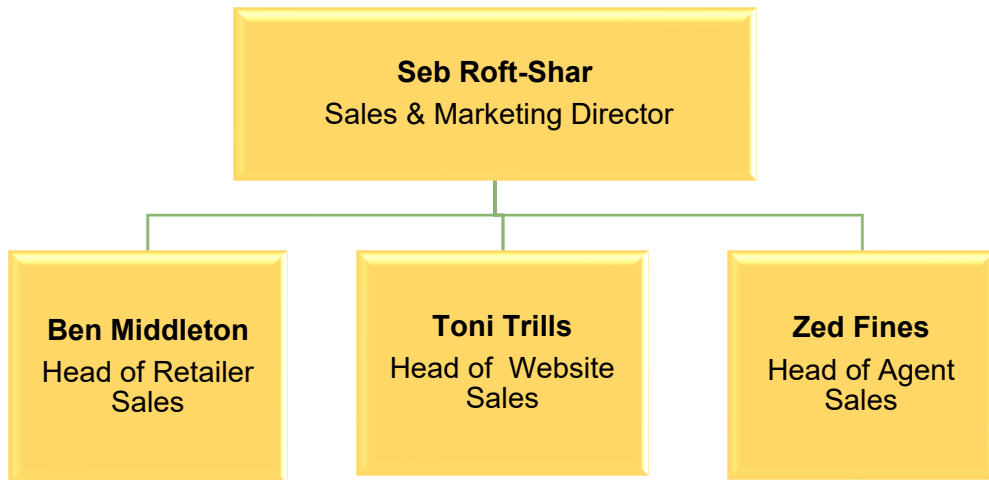
Savita Sharma is responsible for most of the management accounting information and reports produced, as well as the preparation of the financial statements. There are three Finance Officers and five Finance Assistants working in the Finance Department.

Production



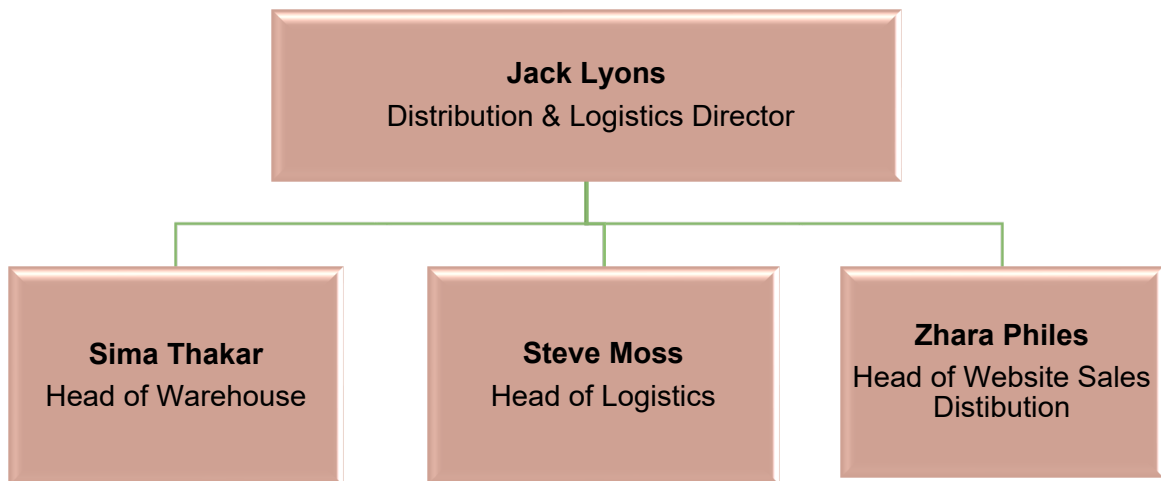
The largest in terms of employees, the Production Department, is the most complex to manage. Despite many challenges, Mavis has led this department successfully through all stages of its growth. Coordination between the sub-departments (Pressing & Welding, Enamelling, Assembly and the service departments) is excellent.

Sales & Marketing



The sales & marketing employees work extremely closely as a team. Although members of the Sales Department tend to instigate and manage the relationships with their own clients, any member can answer queries in another member's absence. Everyone works well with Jack Lyons and his department and are supplied with distribution updates twice daily. Dynamic and ambitious, Seb wants to expand the market share more than any other director of the company.

Distribution & logistics



Jack Lyons is responsible for the Distribution Centre. His department consists of able people who support him with finished goods inventory management, distribution and logistics to retailers and third-party agents, as well as with managing the distribution of website sales.

Extract from the employee induction manual

Overview of the manufacturing process Introduction

The following is a summary of the FireWorks' manufacturing process and should be read before you take the factory induction tour (usually on Day 2 of the induction programme). Although you are employed to work in a specific department, it is important that you know how FireWorks grills are made (yes, even if you work in an administrative or delivery role!). If you are going to work in one of the manufacturing departments, it is vital that you understand where you fit into the process: what has happened with the product before you work on it, where your contribution starts, who your internal customer is and what they need from you.

Steel pressing & welding

This is the first stage of our manufacturing process, where we start to transform the raw materials into what we believe are THE BEST outdoor grills on the market. There are three main activities in this stage:

Laser cutting and preparation: Highest-grade steel plate is laser cut into the required size and shape, as determined by the production schedule. The metal is coated in a layer of biodegradable soap solution which minimises friction and helps ensure an even pressing.



Pressing: The flat, cut-metal shape is placed on a press. The press punches the metal into the relevant shape using 800 tonnes of pressure. All edges are trimmed to make certain that the cook-box base and lid will fit together exactly. This will enhance cooking and fuel efficiency.



Welding: Holes for air vents, plus any needed for components to be attached during assembly, are punched in the cook-box bases. Employees then weld additional grill components (for example, leg couplings, ash sweepers, air vents, handle bases) to each cook-box base and lid.

Enamelling

Our grills are protected against rust and corrosion by a layer of porcelain enamel added at this second, and most technically complicated, stage of the manufacturing process. As well as ensuring that our grills survive bad weather and look good for many years, the enamel also helps to maintain the even cooking temperature vital for producing exceptional food.

Cleansing: The cook-box bases and lids are dipped into a cleaning solution and rinsed to remove impurities prior to the addition of the porcelain enamel. Cleansing enables the enamel to adhere correctly to the steel. Enamel applied to uncleaned steel will not cover evenly and will bubble or flake once the grill is in use.



Application and firing: A dry coat of enamel (known as frit) is applied to the clean cook-box using an electrostatic spray-gun before being fired in one of our furnaces at approximately 850°C. This ground-coat bonds the enamel to the cook-box. A finishing coat of frit is then applied and fired in the same way to achieve the signature glass-smooth, high pigmented finish of a FireWorks grill.

Assembly

This is the stage where all the different components required are collected and connected. At FireWorks, we have two assembly teams, known as “Mechanical” and “Technical”. While each team has a degree of specialism and skill set, the teams work in the same location and members frequently change team as need arises.

Mechanical: This team is responsible for attaching hinges, brackets, wheels, flanges, handles and so on, to the grill cook-box and frame. This completes the grill to a point where it is easy for the customer to finish the assembly after purchase.



Technical: This team fixes the dynamic components to the grill. Any component with integrated control mechanism or measurement role (temperature gauges, gas-burner valves, bezels, woodchip conveyers and so on) is fitted and tested by a member of this team.

Packing

To help minimise our carbon footprint, and our delivery costs, FireWorks grills are shipped to customers using boxes that take up the smallest amount of space and use the least amount of packaging possible. This means that, to some extent, all of our grills have to be assembled by the customer themselves (at least in terms of bolting on legs and placing burners and grilling racks). At FireWorks, we make sure that customers never have cause to regret their decision to buy from us. We take care that instructions are easy to understand and always included and that the risk of missing parts is minimised. All members of the Packing Department are trained to be experts at filling the correct boxes with the correct components plus assembly instructions and product warranty paperwork.

Packing: The Packing Department is a large space where bins of fixings, packaging and paperwork are situated close to the workbenches and pallets of grill parts. This configuration maximises the efficiency of the department. All boxes, once filled, are taped closed and have a barcode attached. Boxes are then placed in a pallet for transportation to the Distribution Centre.

Day two quiz



As you have now completed the FireWorks factory tour, you should have learned quite a lot about the manufacturing process. See how much you have understood and how much you can remember by taking this quick quiz. It should take no more than 10 minutes. If there are any areas that you feel are unclear about, highlight them and ask your line manager on day three of the induction programme.

Name	<i>Martin Moreles</i>	Date	<i>October 11 2022</i>
Questions		Answers	
How many times can a cook-box base be re-enamelled if there is a fault with the enamelling?		<i>An operative can spot grind a small fault and re-fire it with enamel ONE more time. Larger faults cannot be re-enamelled and the cook-box base then has to be scrapped.</i>	
On average, how many people work in the packing department?		<i>27</i>	
What is the advantage of using austenitic steel rather than ferritic steel to the customer?		<i>Austenitic steel contains more nickel which makes it more durable and less likely to corrode. In addition, it retains more heat which makes for better cooking control.</i>	
What is the manufacturing advantage of using austenitic steel rather than ferritic steel?		<i>Welding austenitic steel properly is easier. Therefore, less faults and less reworks/scrap.</i>	
How many faulty cook-boxes were returned by customers during 2021?		<i>142</i>	
On average, how long does it take to reset the pressing machines for a different grill model?		<i>60 minutes</i>	
What information is contained on the packaging barcodes?		<i>Batch number, type of grill, time/date of packing, name of packer.</i>	
What use is the information on the packaging barcodes?		<i>The information is used for updating finished goods inventory, checking the workflow speed of the factory and identifying staff that need further training.</i>	

Martin Moreles' answers (above) are all correct.

Other information about company operations

Production Facility

All FireWorks grills are manufactured at the company's single Production Facility, which includes a large raw materials warehouse, located for ease of moving the inputs into the production building. Within the Production Facility, there are four production departments:

- Steel pressing & welding
- Enamelling
- Assembly
- Packing

Production at the Production Facility is an all-year round activity, despite seasonality affecting sales quite significantly. Typically, sales are highest in the warmer spring and summer months and are significantly lower in the colder autumn and winter months. FireWorks aims to produce at a constant rate throughout the year. Therefore, inventory of finished goods increases in the colder months and decreases in the warmer months.

Purchasing and suppliers

The company has always focussed on buying high-quality raw materials to manufacture a top-quality product. The main inputs into the manufacturing process are:

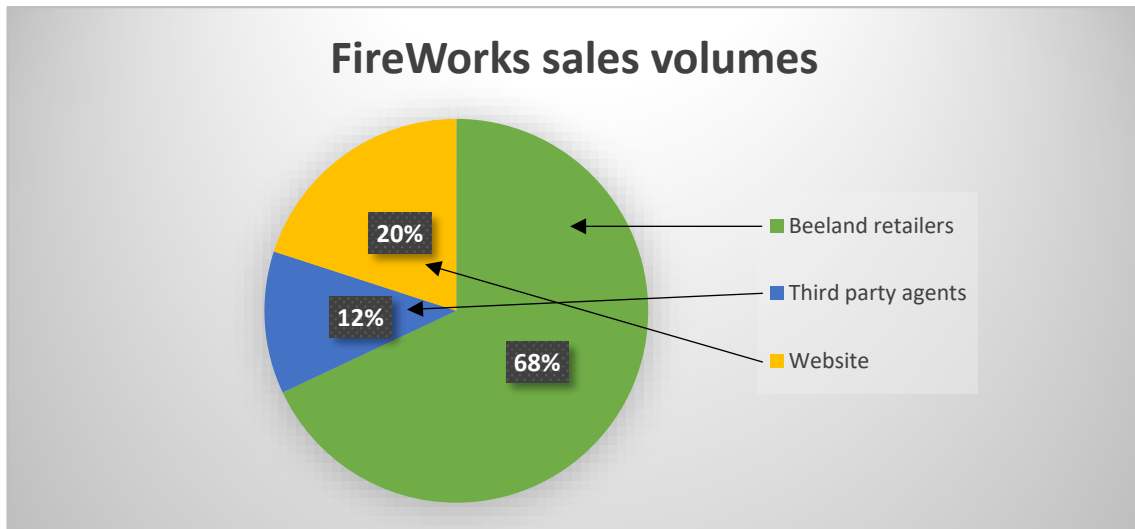
- Heavy-gauge austenitic stainless steel. This is high grade stainless steel available from many suppliers throughout Europe. FireWorks has excellent relations with a few trusted suppliers. These relationships helped FireWorks in 2007 when global steel prices increased sharply, as the best possible prices were secured. FireWorks has remained loyal to these suppliers and has not purchased steel from any other suppliers for over 15 years.
- Frit. This is a specialised material. Debbie Wheeler believed that if the enamel quality failed, it would cost the company dearly in terms of reworks, scrap and reputation. Therefore, while other suppliers exist, Debbie made the decision to always buy frit from a single trusted supplier.
- Additional components. These include bezels, control panels, wheels, handles and so on. These are purchased from many approved suppliers. FireWorks specifies the exact requirements from the in-house designs, and suppliers submit their tenders. In recent years, as FireWorks has become a more significant customer, the tenders have become more competitive, which has benefitted FireWorks.

All accessories are purchased from good quality suppliers. These are usually companies that manufacture and sell their own designs under their own label. The products that they supply to FireWorks tend to be the same products, sometimes with minor modifications, but with the FireWorks logo added.

Non-key manufacturing materials are purchased based on lowest price at time of purchase. Non-manufacturing supplies, such as stationery, tend to be purchased the same way. Several managers in the company buy items they need for their work and claim the money back through petty cash.

Sales markets and sales channels

FireWorks sells its grills via three sales channels: through retailers based in Beeland, to customers in other countries via third-party agents and direct to customers in Beeland via the company's own website. For the year ended 30 June 2022, grill sales volumes through each sales channel were split as follows:



Beeland retailers: FireWorks has always sold its products via selected retail outlets in Beeland. These include garden centres, quality department stores and specialist outdoor stores. These outlets are not only important in terms of the volume of sales they generate but also because they provide the opportunity for potential customers to view the grills before buying. Purchasing a FireWorks grill represents a significant investment to most households and potential customers like to take time to compare the build quality, aesthetics, ease of use and so on, to other brands before committing themselves.

Third-party agents: At present, FireWorks does not have a physical presence (manufacturing, distribution or sales office) in any other country. However, its grills are sold in other countries via third-party agents.

Website: In 2001, the company established its own website. In 2004, after investment in the Distribution Centre and new technology, it began selling direct to customers. Website sales currently account for around 20% of total volumes sold. Research suggests that most sales from the website are from either repeat customers or new customers who have visited a retail outlet and viewed the grills on display.

Distribution Centre and logistics

The company has a Distribution Centre located near to the Production Facility. Finished goods are transferred from the Production Facility to the Distribution Centre daily to be stored. Purchases of accessories are received direct into the Distribution Centre from suppliers.

FireWorks has its own fleet of delivery vehicles which it uses to transport goods to retailers throughout Beeland. This fleet of vehicles is also used to transport goods to the warehouses of third-party agents, most of which are located near Beeland's borders. The third-party agent deals with all aspects of exporting to other countries.

Within the Distribution Centre, there is a dedicated area where website orders are processed. Any accessories for an order are packaged together into one box for despatch. Grills are despatched in the box that they have been packed in (no additional packaging is added). External courier services are used to deliver items to the customer.

Employees

FireWorks had the following number of employees on 30 June 2022:

	Number
Production	190
Distribution and logistics	85
Head Office	41
	316

Standard costing and budgets

The company operates a standard absorption costing system using departmental overhead absorption rates based on either direct labour hours or machine hours. Standard cost cards are produced for each grill design and are updated annually. Standard costs are used for the purposes of valuing inventory in the financial statements.

Budgets are prepared annually on an incremental basis. Operational managers have limited involvement in budget setting.

Financial statements for the year ended 30 June 2022

FireWorks

Statement of profit or loss for the year ended 30 June 2022

	2022 B\$000	2021 B\$000
Revenue	76,540	72,920
Cost of sales	(44,339)	(41,900)
Gross profit	32,201	31,020
Selling, distribution and marketing costs	(15,800)	(15,460)
Administrative expenses	(9,240)	(9,030)
Operating profit	7,161	6,530
Finance costs	(263)	(225)
Profit before tax	6,898	6,305
Income tax expense	(1,725)	(1,576)
Profit for the year	5,173	4,729

FireWorks
Statement of financial position at 30 June 2022

	2022 B\$000	2022 B\$000	2021 B\$000	2021 B\$000
ASSETS				
Non-current assets				
Property, plant and equipment	13,560		13,670	
Right-of-use assets	2,480		1,200	
		16,040		14,870
Current assets				
Inventory	8,252		7,825	
Trade receivables	9,360		7,956	
Prepayments and other receivables	623		540	
Cash and cash equivalents	1,783		890	
		20,018		17,211
Total assets		36,058		32,081
EQUITY AND LIABILITIES				
Issued B\$1 equity share capital	1,000		1,000	
Retained earnings	21,453		19,280	
Total equity		22,453		20,280
Non-current liabilities				
Borrowings	2,300		2,300	
Lease liability	600		450	
		2,900		2,750
Current liabilities				
Trade payables	6,230		5,745	
Accruals and other payables	1,250		1,130	
Tax liability	1,725		1,576	
Lease liability	1,500		600	
		10,705		9,051
Total equity and liabilities		36,058		32,081

FireWorks**Statement of cash flows for the year ended 30 June 2022**

	2022 B\$000	2022 B\$000
Cash flows from operating activities		
Profit before tax	6,898	
Adjustments		
Depreciation of property, plant and equipment	1,540	
Depreciation of right-of-use assets	320	
Finance costs	263	
Movements in working capital		
Increase in inventory	(427)	
Increase in trade and other receivables	(1,487)	
Increase in trade and other payables	605	
Cash generated from operations		7,712
Tax paid		(1,576)
Interest paid		(263)
Net cash inflow from operating activities		5,873
Cash flows from investing activities		
Purchase of property, plant and equipment	(1,430)	
Net cash outflow from investing activities		(1,430)
Cash flows from financing activities		
Dividend paid	(3,000)	
Repayment of lease principal	(550)	
Net cash outflow from financing activities		(3,550)
Net increase in cash and cash equivalents		893
Cash and cash equivalents at the start of the year		890
Cash and cash equivalents at the end of the year		1,783

Budget information for the year ending 30 June 2023

Budgeted gross profit

	Gas grills B\$000	Charcoal grills B\$000	Electric grills B\$000	Accessories B\$000	Total B\$000
Sales revenue	40,040	27,720	10,400	1,950	80,110
Cost of sales	(22,262)	(18,855)	(4,258)	(1,120)	(46,495)
Gross profit	17,778	8,865	6,142	830	33,615
Gross profit margin	44.4%	32.0%	59.1%	42.6%	42.0%

Product codes:

Gas grills:

- FCR = Firecracker
- CJK = Crackerjack

Charcoal grills:

- SKL = Sparkler
- RKT = Rocket
- SNR = Spinner

Electric grills:

- WHL = Wheel

Gas grills: sales revenue

	FCR: Small	FCR: Large	CJK: Small	CJK: Large	Total
Sales volumes:					
Website	3,000	1,600	5,600	4,000	14,200
Retailers and agents	12,000	6,400	22,400	16,000	56,800
Total	15,000	8,000	28,000	20,000	71,000
Average sales prices:	B\$	B\$	B\$	B\$	
Website	750.00	1,100.00	500.00	800.00	
Retailers and agents	562.50	825.00	375.00	600.00	
Sales revenue:	B\$000	B\$000	B\$000	B\$000	B\$000
Website	2,250	1,760	2,800	3,200	10,010
Retailers and agents	6,750	5,280	8,400	9,600	30,030
Total	9,000	7,040	11,200	12,800	40,040

Gas grills: cost of sales

	FCR: Small	FCR: Large	CJK: Small	CJK: Large	Total
Total sales volumes	15,000	8,000	28,000	20,000	71,000
Production cost per unit:	B\$	B\$	B\$	B\$	
Raw materials	209.00	297.25	168.40	271.50	
Direct labour	29.81	32.91	25.90	29.00	
Variable production overhead	12.93	14.62	11.94	13.63	
Fixed production overhead	51.70	58.50	47.74	54.54	
Total cost per unit	303.44	403.28	253.98	368.67	
	B\$000	B\$000	B\$000	B\$000	B\$000
Total cost of sales	4,552	3,226	7,111	7,373	22,262

Charcoal grills: sales revenue

	SNR	RKT	SKL	Total
Sales volumes:				
Website	1,600	8,600	12,800	23,000
Retailers and agents	6,400	34,400	51,200	92,000
Total	8,000	43,000	64,000	115,000
Average sales prices:	B\$	B\$	B\$	
Website	450.00	350.00	250.00	
Retailers and agents	337.50	262.50	187.50	
Sales revenue:	B\$000	B\$000	B\$000	B\$000
Website	720	3,010	3,200	6,930
Retailers and agents	2,160	9,030	9,600	20,790
Total	2,880	12,040	12,800	27,720

Charcoal grills: cost of sales

	SNR	RKT	SKL	Total
Total sales volumes	8,000	43,000	64,000	115,000
Production cost per unit:	B\$	B\$	B\$	
Raw materials	110.00	98.25	80.00	
Direct labour	26.30	22.24	19.99	
Variable production overhead	12.79	11.50	10.00	
Fixed production overhead	51.16	45.98	40.01	
Total cost per unit	200.25	177.97	150.00	
	B\$000	B\$000	B\$000	B\$000
Total cost of sales	1,602	7,653	9,600	18,855

Electric grills: sales revenue

	WHL: Small	WHL: Large	Total
Sales volumes:			
Website	1,200	800	2,000
Retailers and agents	4,800	3,200	8,000
Total	6,000	4,000	10,000
Average sales prices:	B\$	B\$	
Website	1,100.00	1,600.00	
Retailers and agents	825.00	1,200.00	
Sales revenue:	B\$000	B\$000	B\$000
Website	1,320	1,280	2,600
Retailers and agents	3,960	3,840	7,800
Total	5,280	5,120	10,400

Electric grills: cost of sales

	WHL: Small	WHL: Large	Total
Total sales volumes	6,000	4,000	10,000
Production cost per unit:	B\$	B\$	
Raw materials	265.50	359.50	
Direct labour	35.70	41.10	
Variable production overhead	16.31	17.99	
Fixed production overhead	65.22	71.95	
Total cost per unit	382.73	490.54	
	B\$000	B\$000	B\$000
Total cost of sales	2,296	1,962	4,258

Example standard cost card

Firecracker (FCR): Small				
	Quantity / hours	Standard price / rate B\$	Standard cost B\$	Standard cost B\$
Materials:				
Steel sheets	1.50 m ²	40.00	60.00	
Other materials and consumables			3.50	
Frit	2.00 kg	15.00	30.00	
Bought in components			110.00	
Packaging			5.50	
Total				209.00
Direct labour:				
Steel pressing & welding	0.50 hours	20.00	10.00	
Enamelling	0.20 hours	20.00	4.00	
Assembly	0.60 hours	17.00	10.20	
Packing	0.33 hours	17.00	5.61	
Total				29.81
Variable production overheads:				
Steel pressing & welding	0.50 DLH*	8.68	4.34	
Enamelling	0.50 MH*	8.54	4.27	
Assembly	0.60 DLH	4.11	2.47	
Packing	0.33 DLH	5.61	1.85	
Total				12.93
Fixed production overheads:				
Steel pressing & welding	0.50 DLH	34.70	17.35	
Enamelling	0.50 MH	34.16	17.08	
Assembly	0.60 DLH	16.44	9.86	
Packing	0.33 DLH	22.44	7.41	
Total				51.70
Total production cost				303.44

*DLH is direct labour hours and MH is machine hours.

Notes on standards and budget preparation

1. Standards are reviewed and updated annually.
2. Normal raw material losses are included in the standard cost of each product.
3. All direct labour overtime premium is treated as variable production overhead. Idle time is not budgeted for.
4. Production overheads are allocated and apportioned to production cost centres and absorbed on either a direct labour hour, or a machine hour basis. There are four production cost centres: Steel pressing & welding, Enamelling, Assembly and Packing. Each production cost centre has its own variable and fixed production overhead absorption rates.
5. Budgeted selling prices include an allowance for planned discount promotions.

Articles

American Food Today

The five-minute interview with Elsie Springer

Udenfor Grills (Udenfor), a giant among grill manufacturers, has been running grill cookery classes here in North America since 2015. These classes teach delegates how to prepare exquisite meals using Udenfor's charcoal or gas grills and have proved extremely popular. My five-minute interview this month is with Chuck Eastwood: Chief Executive of Udenfor who explains the reasoning behind his company's diversification from its core metalworks business.

Elsie: Welcome Chuck. What inspired a metalworks company to set up a cookery school?

Chuck: We have never seen ourselves as simply a metalworks company. Our focus has always been on enabling as many people as possible to cook great food outdoors. The cookery school is a natural extension of this vision.

Elsie: Yes, that does make sense now you have explained it. What does a class consist of?

Chuck: All our classes are one-day events, and we cover anything to do with grill cooking. Some classes may include an introductory session on how to light a charcoal grill properly or some may have a celebrity host, but the core of all classes is a chef showing delegates how to cook, followed by the delegates cooking. Delegates bring their own ingredients to the classes.

Elsie: What exactly do you cook in the classes?

Chuck: If it can be cooked on an outdoor grill, we have included it in a class at some time. Some classes may focus on how to be sure a wiener is not raw while other classes may have delegates preparing and cooking the perfect chateaubriand steak with all the trimmings. We cook desserts, breads, pot roasts, vegetables, shellfish, meat, pizza ... our itinerary is constantly changing. The only rule is that everything is cooked on Udenfor grills.

Elsie: Who attends your classes?

Chuck: Absolutely anyone! Sometimes people who have never cooked before. People buy classes as gifts, people come as a group of friends and couples love our romance-themed classes. All classes are fun, laughter-filled, expertly delivered and there is always a great meal at the end.

Elsie: I heard you have introduced vegan meals into the classes recently. Is this true?

Chuck: Absolutely! Times move on, we are no longer the meat, meat and more meat nation that we were twenty years ago. An Udenfor grill suits all dietary lifestyles.

Elsie: Can you tell me about "Chuck's trucks"?

Chuck: (Laughing) When I first suggested the concept of the cookery classes at Udenfor, the finance guys insisted that we kept investment low. I really don't think they had any faith in the idea at all (laughs). I came up with the idea that classes could be run as "pop up" events as we toured the country. We bought a truck and customised it with refrigeration, equipment storage, washing facilities and awnings and hey presto! we had a mobile, outdoor teaching kitchen. The board nicknamed it "Chuck's truck". We keep as many of our costs as variable as possible so that we can avoid them at short notice. We rent suitable cook-sites by the day and only employ freelance chefs/tutors to deliver the classes. We run classes at corporate events, festivals and campouts, all using the truck's facilities. I am incredibly proud of the idea, and it has been a great success, although providing a service is a different animal to manufacturing grills.

Elsie: Is it true that you will run a class with only one delegate?

Chuck: Udenfor has a reputation for honesty and reliability and if we advertise a class only one person wants to attend, we will run it at a loss. However, I need to add that this has only happened once in seven years. Our classes are very popular, and we are usually oversubscribed.

Elsie: You could raise the cap on the number of delegates per class up from 20.

Chuck: No, we could not! Our chef team can personally supervise up to 20 people, ensuring that every delegate has the individual guidance they need – even though it feels like a cookout with friends. If we allowed more delegates, we would lose the uniqueness and magic of the classes.

Elsie: I believe that since the cookery school started, the sale of your grills has increased substantially

Chuck: I like to believe that the classes enlighten people about the benefits of owning a Udenfor grill. (laughs)

Elsie: That's time! Chuck, thank you very much for this interview, it's been a pleasure.

Living life outside	
No. 53	B\$3.75
 <p>Cooking ‘on the go’ is growing up</p> <p>Ozi Patel – Travel Writer</p> <p>When most people think about outdoor cooking on the go, they summon up images like the one shown here, marshmallows on sticks over an open fire. Or, if you’re more adventurous, perhaps you picture baked beans bubbling in an old pan over a single flame gas stove.</p> <p>But outdoor gas cooking has moved on in recent years, with many brands investing heavily in new technologies which allow for the production of lightweight, highly portable cooking grills, with the functionality of the high-end full sized outdoor grill.</p>	<p>Today I visited the factory of one key player and was shown their new prototype camping grill. So much more than a typical gas camping stove, it featured a sturdy double grill and a separate warming area but could be packed up so small it would fit into a compact family car along with your buckets, spades and picnic blanket to take along whenever you fancied a picnic on the beach. I was not allowed to take any pictures, as the grill is not due to be launched for some months, but when it does, it will certainly be on my birthday present list!</p> <p>I was also given a sneak peek at some of the other developments they were working on, including better temperature controls, easier cleaning grills and smart technologies which would allow you to control your grill from your phone. None were due to hit the market immediately, but if, like me, you love cooking outdoors, then it’s certainly worth keeping an eye out for new developments over the coming months.</p> <p>Cooking on the go is coming of age! Once the bastion of Scouts and only the hardest of campers, it will soon be a desirable option for all.</p>

Tax regime in Beeland

- The corporate income tax rate to be applied to taxable profits is 25%.
- Unless otherwise stated below, accounting rules on recognition and measurement are followed for tax purposes.
- The following expenses are not allowable for tax purposes:
 - accounting depreciation
 - amortisation
 - impairment charges
 - entertaining expenditure
 - donations to political parties
 - taxes paid to other public bodies.
- Tax depreciation allowances are available on all items of plant and equipment (including computer equipment) at a rate of 25% per year on a reducing balance basis. A full year's allowance is available in the year that the asset is acquired. Tax depreciation allowances are not available for property assets.
- Tax losses can be carried forward indefinitely to offset against future taxable profits from the same business.
- Sales tax is charged on all standard rated goods and services at a rate of 20%. Tax paid on inputs into a business can be netted off against the tax charged on outputs from that business. All businesses are required to pay over the net amount due on a monthly basis.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 64% (b) 12% (c) 24%
2	45	1	2	(a) 52% (b) 48%
3	45	1	3	(a) 36% (b) 32% (c) 32%
4	45	1	3	(a) 32% (b) 32% (c) 36%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2022. You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Variances and key performance indicators (KPIs)

The Senior Management Team (SMT) has asked for a report on some of the production variances and KPIs for the Enamelling Department in November. Table 1 (attached) includes the relevant production variances, and Table 2 (attached) shows the key performance indicator (KPI) dashboard for the department for the month. George Crystal, Head of Enamelling, has told me:

- As a trial, a new type of frit (which is dry enamel powder) was purchased and used in production from early November. This new frit requires a thinner application and less firing time in the furnace than the frit we usually use. It does take our skilled employees longer to spray onto the cook-boxes because it requires a more careful application, although, as a result, there is less wastage. If the trial is successful, this new type of frit will be used in the future. The standards have not been amended to reflect the impact of using the new type of frit on the production process.
- Due to an increased sales forecast for the first half of 2023, production in November was increased above the original budget. Overtime premiums paid were higher than expected in the month.
- Because of the increase in production, new trainees were employed on 15 November. This was earlier than originally intended. These trainees will start our training programme in January but were trained on the job to load and unload the furnaces. Trainees are paid a lower hourly rate than qualified employees.
- A new wind turbine was installed at the Production Facility during October and became operational on 15 November. We pay less for self-generated power than for power purchased from the national grid.

Please prepare a report to the SMT which explains:

- What the variances shown in Table 1 mean and possible reasons for each variance, based on what George has told me and the KPI dashboard in Table 2.
(sub-task (a) = 64%)
- What these variances indicate about the overall impact on profit in the month of using the new type of frit.
(sub-task (b) = 12%)

Our training programme includes a course of tuition sessions at an external training college. Each trainee will take an examination at the end of the course, which they need to pass to gain trade association membership. We have decided to use a new external training college for 2023. The SMT has asked for suggestions of KPIs to monitor the performance of this college to help it decide whether to continue using it in 2024.

Please include in your report to the SMT:

- Suggestions of two KPIs to monitor the performance of the new external training college during 2023. Please explain how each KPI would be measured and why it would be suitable.
(sub-task (c) = 24%)

Savita Sharma
Finance Manager
FireWorks

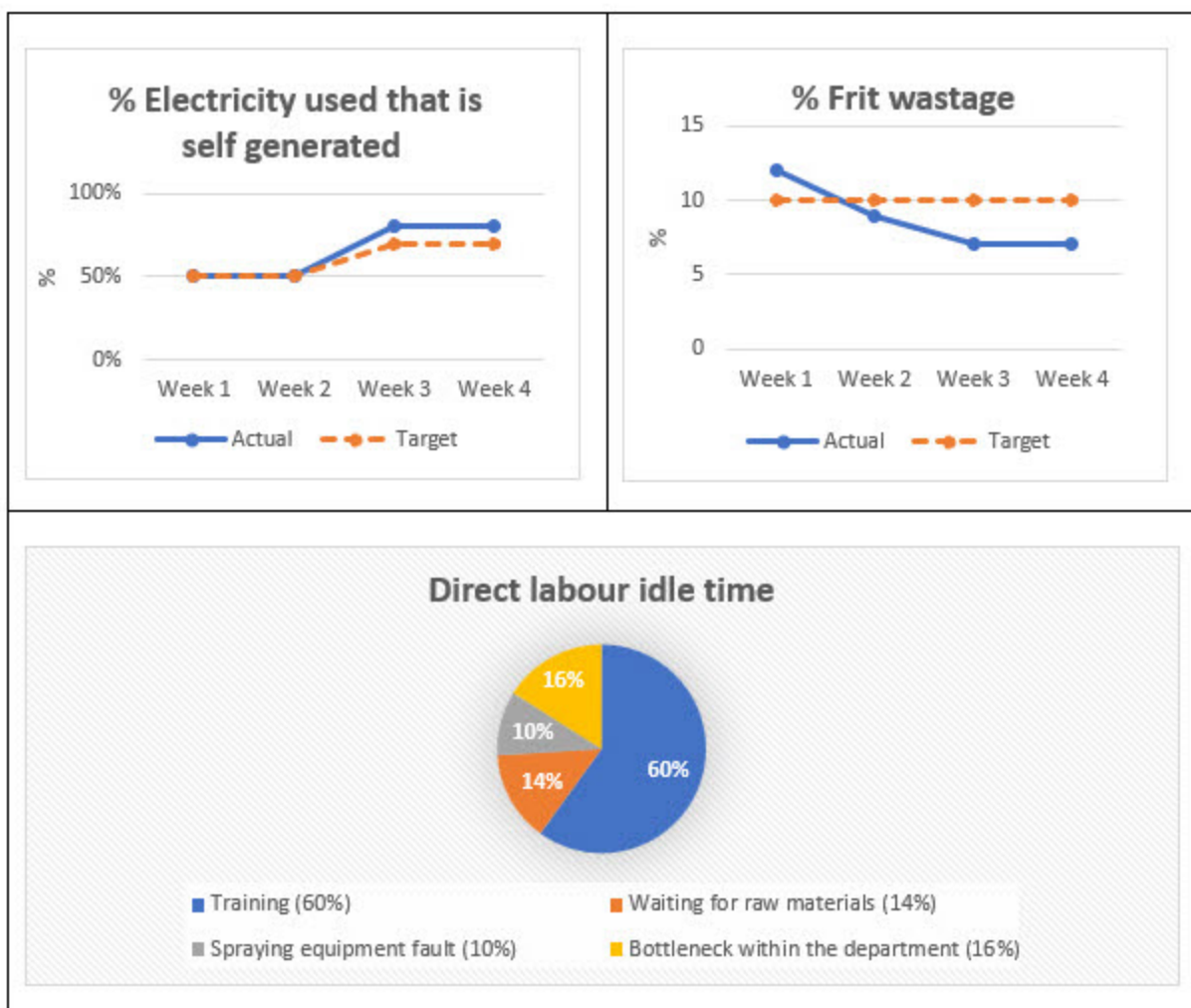
The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Variances for the Enamelling Department for November 2022

Variance	B\$	
Raw material price	20,640	Adverse
Raw material usage	15,480	Favourable
Direct labour rate	3,900	Favourable
Direct labour idle time	4,000	Adverse
Direct labour efficiency	1,760	Adverse
Variable overhead expenditure	344	Favourable
Variable overhead efficiency	7,344	Favourable

Notes:

- Idle time is not budgeted for.
- Variable overheads are absorbed on furnace hours.
- The mix of grills enamelled during the month was in line with the budgeted production mix.

Table 2: KPI dashboard for the Enamelling Department for November 2022

Reference Material

Pre-seen

Write the report requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Variances and key performance indicators (KPIs)



Empty text area for writing the report.

Reference Material

Pre-seen

It is now April 2023. The Production Facility has been running at near to full capacity and, because of a period of good weather, customers have been placing orders earlier than anticipated.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Spare capacity and Chartered Global Management Accountant (CGMA) cost transformation model

Mavis Jones, Production Director, has identified that we could have some spare capacity in the Enamelling Department next month after our budgeted production has been achieved. She has suggested that this capacity could be used on urgent orders for Rocket and small Wheel grills that we have just received from two new customers. These orders cannot be met from inventory. The details are:

Customer 1	200 Rocket and 150 Wheel grills
Customer 2	300 Rocket and 50 Wheel grills

The customers have both said that they will accept partial orders but only if they are delivered by the end of the month. However, it has now been identified that we might not have enough frit and/or furnace hours available to fulfil these orders. I have produced a linear programming graph (Graph 1 attached) to help decide how best to use the spare capacity.

Please prepare a briefing paper for the Senior Management Team (SMT) which explains:

- The feasible region of Graph 1, how to use the graph to determine the optimal production plan and what that optimal production plan is. Please also explain the factors we should consider before proceeding with this production plan. **(sub-task (a) = 52%)**

Whilst I was talking to Mavis, she mentioned that she had recently read an article on CGMA's cost transformation model. Mavis believes that some of the principles are already being applied within our business. She has asked for a briefing paper about CGMA's cost transformation model with specific reference to the Enamelling Department (some operational details of which are included in Schedule 1 attached).

The three areas of the model Mavis is interested in are:

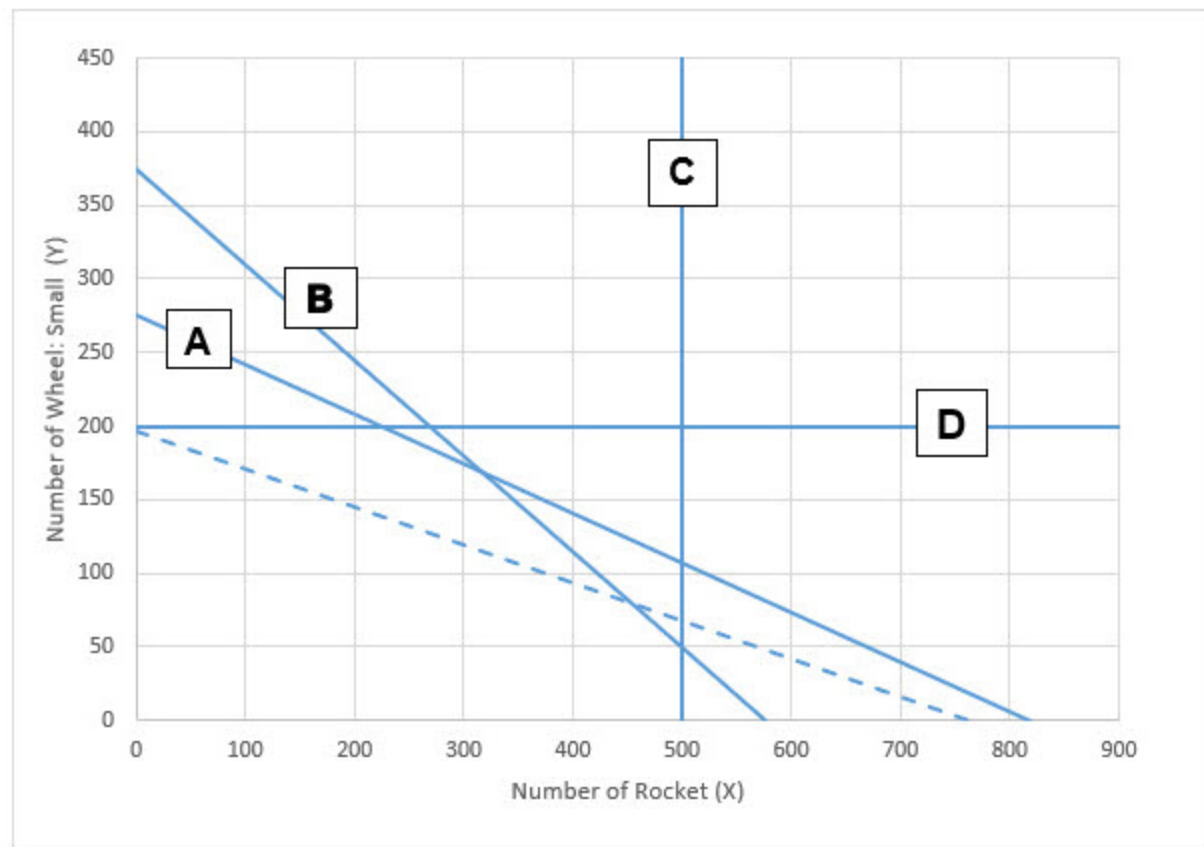
1. Engendering a cost-conscious culture
2. Managing the risks inherent in driving cost-competitiveness
3. Incorporating sustainability to optimise profits.

Please prepare a briefing paper for Mavis which explains:

- The three areas of the CGMA cost transformation model identified above and how these apply to our Enamelling Department. **(sub-task (b) = 48%)**

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Graph 1: Linear programming graph**Key to the graph:**

- Lines A and B show the availability of furnace hours and frit, respectively.
- Lines C and D are maximum demand constraints based on the orders from the two new customers.
- The dotted line is an iso-contribution line.

Schedule 1: Information about Enamelling Department operations

- George Crystal, Head of Enamelling, is responsible for recruitment, retention, training and the productivity of all employees in his department. He holds a weekly meeting with all employees in the department to share key performance measures relating to frit wastage, throughput, idle time and self-generated energy usage. At these meetings, all employees are encouraged to participate and share ideas on how processes might be improved.
- Frit is purchased from a single supplier to safeguard quality. This supplier is located close to the Production Facility. Recently, George switched to a new type of frit from this supplier which has reduced wastage and speeded up the enamelling process, despite its higher cost.



Reference Material

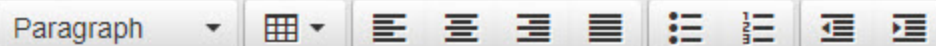
Pre-seen

Write the briefing papers requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Spare capacity and Chartered Global Management Accountant (CGMA) cost transformation model



Reference Material

Pre-seen

It is now early May 2023. The Senior Management Team (SMT) has agreed a major expansion of the Production Facility.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Activity based budgeting and management of inventory

As part of the expansion of the Production Facility, it was decided that the Enamelling Department would be expanded to include an area for "Enamelling Stores" to deal with the receipt, storage and issue of frit and enamelling consumables. This will become operational on 1 July 2023. We need to create a budget for the year ending 30 June 2024 for this new Enamelling Stores. It has been suggested that we use an activity based budgeting (ABB) approach, starting with the budget for employee costs. Tony Cook has recently been appointed as the new Enamelling Stores Manager, and Table 1 (attached) includes some information about how he believes the new stores will operate.

Please prepare a briefing paper for the SMT which explains:

- How an ABB approach could be applied in determining a budget for employee costs for the Enamelling Stores. **(sub-task (a) = 36%)**
- Two potential benefits and two potential difficulties of using ABB to determine a budget for employee costs for the Enamelling Stores. **(sub-task (b) = 32%)**

Tony has suggested that the Economic Order Quantity (EOQ) model could be used to manage the purchasing of frit and consumables used in the enamelling process.

Please include in your briefing paper an explanation of:

- The information needed to calculate the EOQs for frit and each type of consumable. Please also explain two of the assumptions that underpin the EOQ model and whether these are likely to hold for frit and consumables inventory. **(sub-task (c) = 32%)**

Savita Sharma
Finance Manager
FireWorks

The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Operation of the Enamelling Stores

Task	Detail
Moving raw materials into stores	<p>Frit will be delivered in sacks on pallets from our supplier. Each pallet will contain the same number of sacks and will be moved to the correct location in the stores by forklift truck. Forklift trucks can only move one pallet at a time, and the frit remains on the pallet in its storage area until it is needed for production.</p> <p>Consumables will be delivered in boxes on pallets from our supplier. Each pallet will contain up to four different types of consumables. Each pallet will be moved around the stores area by forklift truck. The driver will need to keep stopping the forklift truck to manually unload boxes of each different type of consumable and place these on the appropriate shelf for storage.</p>
Moving raw materials from stores into production	<p>Frit and consumables will be moved from stores to production in one delivery for each single batch of production (which is 50 grills of a particular model). This delivery will include the correct number of sacks of frit and the correct number of boxes of consumables required for the batch of production, all of which is picked from stores by the forklift truck driver. The amount of frit and consumables required is different for each grill model.</p>

Notes:

- Forklift drivers will be trained to undertake both tasks identified above.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Activity based budgeting and management of inventory



Reference Material

Pre-seen

It is now the middle of May 2023, and Savita Sharma, Finance Manager, says the following to you:

"A new furnace will shortly be installed in the Enamelling Department and will be operational from 1 June 2023. Table 1 of a schedule that I shall give you shortly contains information about this new furnace.

Please prepare a briefing paper for the Senior Management Team (SMT) which explains, with appropriate justification:

- How the new furnace will be classified and initially measured in our financial statements. Please also explain the impact of the new furnace on our reported profit for the year ending 30 June 2023.

(sub-task (a) = 32%)

An old furnace will cease to be used from 1 June 2023 and will be dismantled with a view to selling it. Information about the old furnace is included in Table 2 of a schedule that I shall give you shortly.

Please include in your briefing paper an explanation of:

- How the old furnace will be classified and how it will be measured in our financial statements for the year ending 30 June 2023.

(sub-task (b) = 32%)

The SMT has decided to outsource maintenance of our furnaces. Two potential suppliers have been shortlisted. Supplier 1 is offering two alternative contracts for a 12-month period, each with different cost structures and payments required per call out. Supplier 2 is offering a single contract with payments required per maintenance hour. To help choose which supplier would be best, I have drawn up a decision tree (Chart 1, on a schedule I'll give you shortly).

Please include in your briefing paper an explanation of:

- How we should use the decision tree to help us decide which supplier option to choose assuming that we want to maximise profits. Please also explain two limitations of using decision tree methodology to make this decision.

(sub-task (c) = 36%)

Savita gives you her schedules which can be found by clicking on the Reference Material button above.

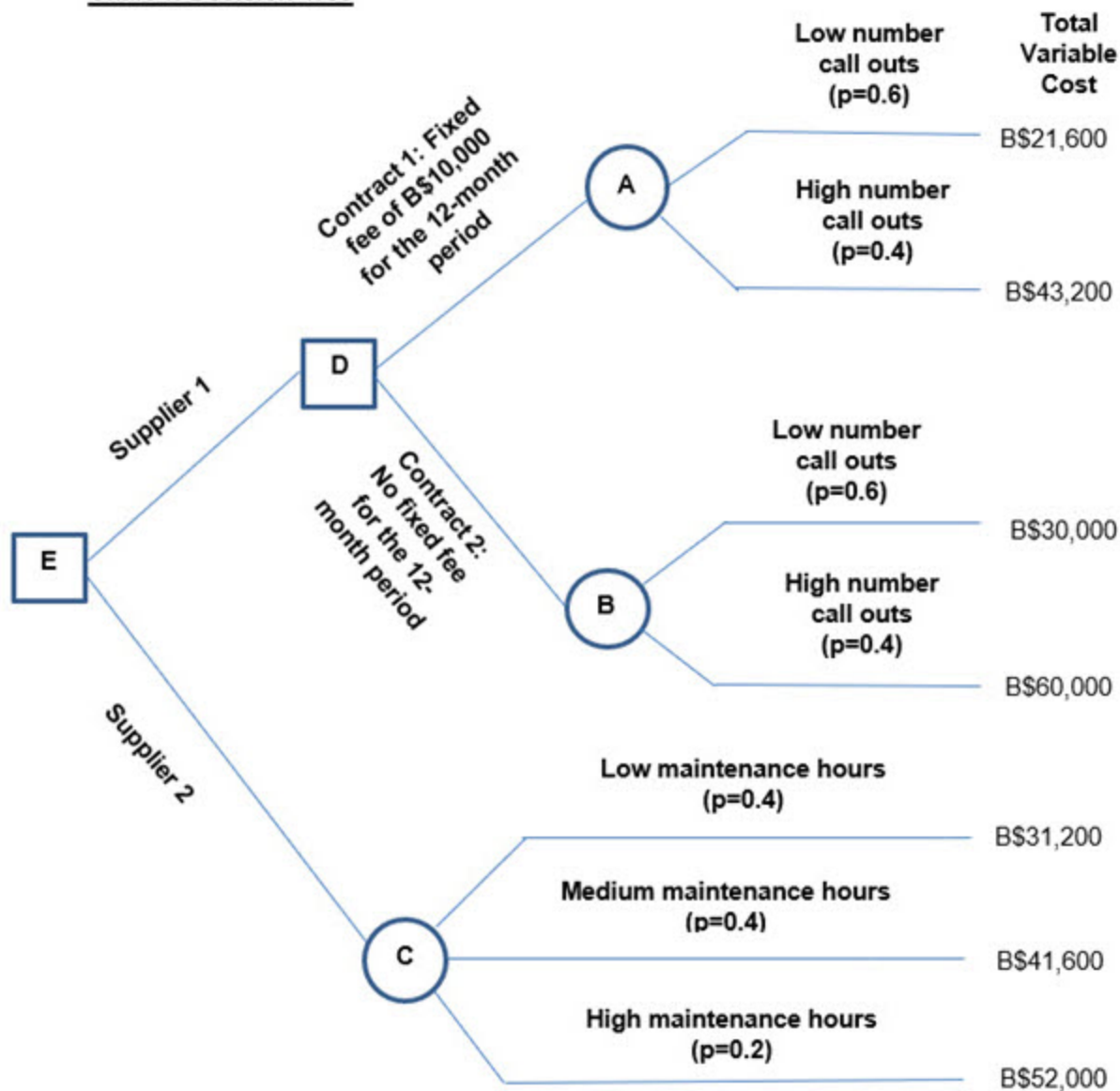
Table 1: New furnace

Asset	Information
New furnace	<ul style="list-style-type: none">• The new furnace was purchased on 1 April 2023. The purchase price for the furnace was B\$1,000,000, and the purchase price for its lining was B\$150,000.• The new furnace will be installed in May 2023 by the furnace supplier which will charge B\$10,000 for installing the furnace and B\$5,000 for installing the lining.• Before the furnace can be used, a safety inspection will be required and a safety certificate issued. This is a legal requirement. This will cost B\$1,000 and will be carried out at the end of May.• We expect the furnace to be available for use in production on 1 June 2023.• We expect to use the new furnace for 20 years. The lining will need to be replaced every 5 years.

Table 2: Old furnace

Asset	Information
Old furnace	<ul style="list-style-type: none">• The old furnace will continue to be used until the new furnace is available for use.• We expect dismantling to be completed by the end of June 2023.• We will need to recondition the furnace at a cost of B\$25,000 before we can sell it. We expect to sell the asset for B\$100,000 after the reconditioning. The reconditioning would be undertaken in July 2023. We expect to be able to sell the furnace within 6 months of advertising it for sale.• The old furnace's carrying amount at 1 July 2022 was B\$220,000, and it is being depreciated at B\$3,000 a month.

Chart 1: Decision Tree



Note: The expected values of the total variable cost at point A, B and C shown above are B\$30,240, B\$42,000 and B\$39,520, respectively.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.

Rich text editor toolbar with icons for: Undo, Redo, Bold, Italic, Underline, Strikethrough, Subscript, Superscript, Text Color, Paragraph, Table, Bulleted List, Numbered List, Indent Left, Indent Right, Decrease Indent, Increase Indent.



Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 40% (b) 36% (c) 24%
2	45	1	3	(a) 44% (b) 44% (c) 12%
3	45	1	3	(a) 32% (b) 36% (c) 32%
4	45	1	3	(a) 36% (b) 16% (c) 48%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2022. The Senior Management Team (SMT) at FireWorks has just approved the manufacture of a new range of smaller, lighter, portable outdoor gas grills aimed at campers, picnickers and so on. The range has the brand name FireWorks-To-Go (FTG).

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: New and adapted machinery

Although most of the component parts for our new FTG range will be made by external suppliers, the cook-boxes themselves will be built in-house. Since these new grills will be smaller than our existing range, a new steel pressing machine will be required. We will also need to adapt an existing machine that was due to be scrapped.

Greta Smith, Head of Procurement, has provided me with details of three prospective machine suppliers (Table 1 attached) for the new machine, all of which offer suitable maintenance contracts and spare parts guarantees as required by our procurement policies. Greta has asked for our help in producing a financial evaluation of these suppliers.

Please prepare a briefing note for the SMT which explains:

- What the information in Table 1 indicates about each potential supplier's approach to working capital management and their suitability to be our machinery supplier.

(sub-task (a) = 40%)

The adaptation of the old machine and the purchase of the new pressing machine will take place soon. All three suppliers are offering the new machine for the same price, and it will attract 100% first year tax depreciation allowances. Table 2 (attached) gives information about the expenditure to be incurred adapting the old machine and on the new machine.

Please include in your briefing note an explanation of how:

- The expenditure on the machinery shown in Table 2 should be recorded in our statements of financial position and profit or loss for the year ending 30 June 2023.

(sub-task (b) = 36%)

- The purchase of the new machine will impact the calculation of our tax payable this year and in future years.

(sub-task (c) = 24%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Comparative financial data on three potential suppliers

	Industry average	Supplier A	Supplier B	Supplier C
	B\$ million	B\$ million	B\$ million	B\$ million
Sales revenue	21	9	37	85
Cash / (overdraft)	1.7	(0.85)	0.72	5.8
	Days	Days	Days	Days
Inventory days	50	57	72	43
Trade receivable days	49	55	58	45
Trade payable days	(51)	(42)	(41)	(61)
Working capital cycle	48	70	89	27

Notes:

1. Supplier A is a specialist company, formed last year. It is growing fast and is already becoming known for the high quality of its machinery.
2. Supplier B is a long-established company which has ongoing supply contracts with several companies which produce outdoor grills.
3. Supplier C was set up 3 years ago and is a part of a global organisation. Its clients range from car manufacturers to construction firms.

Table 2: Expenditure on machinery

The following expenditure will be incurred for the machinery:

	B\$
New pressing machine	
Purchase price	185,000
Delivery	1,500
Installation	3,000
Calibration and testing	4,000
Staff training	1,000
Adaptation of existing machine	
Adaptation	5,000

Notes:

1. The new pressing machine is expected to have a useful life of 15 years and will be operational from 1 March 2023.
2. Adapting the existing machine, which had been fully written down, will extend its useful life by 3 years. The machine will also be operational from 1 March 2023.

Reference Material

Pre-seen

Write the briefing note requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: New and adapted machinery



Reference Material

Pre-seen

It is now 2 weeks later, and you receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Make or buy decision and activity based costing

Gemma Grace, Head of Pressing & Welding, has identified that, because of the nature of the portable design, the four models in the new FireWorks-To-Go (FTG) range will require more welding hours than our existing grills and that this could potentially result in a shortage of welding labour hours. This has led the Senior Management Team (SMT) to consider buying in some ready-welded cook-boxes from external suppliers, at least in the short term, until we have sufficient scale to justify buying more machinery to automate the process. Table 1 (attached) shows the costs relating to the four different cook-box models in the FTG range.

I would like you to prepare a report for the SMT which explains:

- How the figures shown in Table 1 would be used to decide which of the cook-boxes we should buy-in and which we should make in-house. Please also explain any other factors we should consider before making a final decision about buying-in the cook-boxes.
(sub-task (a) = 44%)

The production process for the new FTG range is more complex than that for our existing ranges, and this has led Ben Bruce, Finance Director, to suggest that the SMT considers changing to an activity based costing (ABC) system. I would like you to use the description of the work performed by the support staff in our current mechanical assembly process, provided in Schedule 1 (attached), to explain ABC and how it would differ from our current system of absorbing overheads on the basis of direct labour hours.

Please explain in your report:

- How adopting an ABC approach would change the way in which production overheads are absorbed in the mechanical assembly process.
(sub-task (b) = 44%)
- How using ABC could improve overall cost control over the mechanical assembly process.
(sub-task (c) = 12%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1 Schedule 1

Table 1: Make or buy decision for cook-boxes

	Cook-box model number			
	CB100	CB200	CB300	CB400
Per unit	B\$	B\$	B\$	B\$
Variable production costs	42.48	50.76	58.58	64.80
Fixed production costs	7.34	9.18	10.20	11.02
Total production costs	49.82	59.94	68.78	75.82
Quoted buy-in price	47.00	48.00	63.00	70.00
Welding labour hours per unit	0.36	0.45	0.50	0.54

Schedule 1: Mechanical grill assembly process**Mechanical assembly process – role of support staff**

Staff drive forklift trucks to the location where the component bins are all stored and load the bins required for each batch onto the forklift

Once the forklifts are loaded, they are then transported to the production floor

Trays of components, one per grill, are compiled by staff, ready for use by those working on the assembly line

Staff stack the completed grills onto specially constructed pallets ready for transfer to the technical assembly team

Notes

- Components are stored near to the production floor. Each type of component is stored in a separate bin.
- Different models of grills are made in separate batches.
- Grills require between 6 and 24 different types of components depending on the model being made.
- A batch of grills will never need more than one bin of each type of component.
- A pallet can hold up to 6 component bins.

Reference Material

Pre-seen

Write the report requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Make or buy decision and activity based costing



[Reference Material](#)[Pre-seen](#)

It is now April 2023.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Quality control – welding

The Senior Management Team (SMT) is concerned about a welding quality control failure, which was only discovered when there was a large adverse materials usage variance at the end of last month. We must now decide whether it is worth checking every item of inventory for welding weaknesses and rectifying those that are found. I have produced calculations (Tables 1 and 2 in the attached schedule) using probabilities based on previous welding failures and an estimate of rectification costs, to help us reach a decision.

Please prepare a briefing note for the SMT which explains:

- How the expected values shown in Tables 1 and 2 can be used to make a decision on whether to check every inventory item. Please also explain three limitations of using this information to make the decision.

(sub-task (a) = 32%)

As a result of the welding problem, and the shortage of welding hours currently available, the SMT has decided that going forward all the FTG cook-boxes will be purchased from an external supplier, despite the additional costs involved. The cook-boxes will need to be ordered weekly and be carefully packaged to avoid damage in transit. We now need to draw up a contract with the supplier which includes key performance indicators (KPIs) to be monitored on a monthly basis.

Please include in your briefing note to the SMT:

- Suggestions of three KPIs that are appropriate to monitor the performance of the new supplier. Please explain how each KPI would be measured and why it would be appropriate.

(sub-task (b) = 36%)

Given the problems we have had with the FTG range already, and the importance of being well placed to expand in the future, it has been suggested that we move from the feedback system we use across the business now, to using feedforward control. The SMT wants to understand the implications for the business of changing the control system we use.

Please include in your briefing note an explanation of:

- How a feedforward control approach differs from a feedback control approach and the benefits to our business of using a feedforward control approach.

(sub-task (c) = 32%)

Savita Sharma
Finance Manager
FireWorks

The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Costs of rectifying welding errors (excluding the cost of carrying out the initial checks)

Outcome	Rectification Cost B\$	Probability	Expected value B\$
Few errors found	500	0.2	100
Moderate level of errors found	5,000	0.7	3,500
High level of errors found	25,000	0.1	2,500
Expected value			6,100

Note: The cost of carrying out the checks (not included in the above figures) will be B\$55,000.

Table 2: Costs of not checking for welding errors

Outcome	Cost* B\$	Probability	Expected value B\$
Few errors present	8,000	0.2	1,600
Moderate level of errors present	60,000	0.7	42,000
High level of errors present	150,000	0.1	15,000
Expected value			58,600

*The cost of not checking includes the cost of providing customers with replacement grills in accordance with our warranty promises.

Reference Material

Pre-seen

Write the briefing note requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Quality control - welding



Reference Material

Pre-seen

It is now 5 July, and the FireWorks-To-Go (FTG) range has been on the market in Beeland for 3 months. The range has not yet been sold and marketed in other countries.

You have just received the following email:

From: Savita Sharma, Finance Manager

To: Finance Officer

Subject: Sales of FTG

I have just been talking to Seb Roft-Shar, Sales & Marketing Director, about our sales figures. He explained that, because the initial sales volumes for the FTG range were lower than budgeted, two policies affecting different sales channels were implemented during April to improve profits:

- Toni Trills, Head of Website Sales, introduced lower promotional prices on direct sales to the public made via our website.
- Our sales teams were encouraged by Ben Middleton, Head of Retailer Sales, to use their discretion and offer discounts to smaller retail clients where they felt it was necessary to achieve a sale.

These policies did not result in any amendments to the original budgets for the range.

The Senior Management Team (SMT) now wants to understand the impact of these policies when compared with the original budget. I have therefore gathered together the sales variances for each sales channel (Table 1 in the attached schedule) for the FTG400, the most popular product in the FTG range.

Please prepare a briefing note for the SMT which explains:

- What the sales price, mix and quantity variances mean and the likely reasons they have occurred. **(sub-task (a) = 36%)**
- Whether, with regard to the FTG400 product, the decision to introduce the two policies described can be considered successful. **(sub-task (b) = 16%)**

The SMT noted that significant variances were recorded across the business this year and believe that this may have arisen, in part, because many of the budgets produced at the start of the year were inaccurate. It wondered whether this was caused by the lack of involvement of sales managers in the budget and target setting process, who are not consulted but are expected to achieve the budgets set. The SMT has asked about responsibility accounting and the potential benefits of increasing participation in the budget setting process.

Please include in your briefing note an explanation of:

- The features of a responsibility accounting system and whether it would be beneficial for FireWorks if the sales managers participated in setting budgets and targets for sales volumes and revenue. **(sub-task (c) = 48%)**

Savita Sharma
Finance Manager
FireWorks

The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Sales variances for the FTG400 for the period 1 April to 30 June

Variations A – Adverse F – Favourable	Sales via our website B\$	Sales to large retailers B\$	Sales to small retailers B\$	Total B\$
Sales price	13,440 A	45 A	21,600 A	35,085 A
Sales mix profit	22,950 F	41,040 A	39,590 F	21,500 F
Sales quantity profit	7,650 F	19,440 F	12,220 F	39,310 F

Notes

1. Sales mix and quantity variances are calculated using the individual units method and standard gross profit using absorption costing.
2. Five of our retail customers fall into the 'large retailers' category. They are all large department stores and have been customers of FireWorks for several years.
3. Small retailers are primarily garden centres and specialist outdoor stores. We have increased the number of small retail customers stocking the FTG range from 74 at the start of the period to 97 by 30 June.
4. Gross profit margins on sales via our website to large retailers and small retailers were 57%, 39% and 46%, respectively.

Reference Material

Pre-seen

Write the briefing note requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Sales of FTG





Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.





Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	4	(a) 28% (b) 24% (c) 20% (d) 28%
2	45	1	3	(a) 40% (b) 24% (c) 36%
3	45	1	3	(a) 28% (b) 20% (c) 52%
4	45	1	3	(a) 44% (b) 32% (c) 24%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2022. On 1 February 2023, FireWorks' Senior Management Team (SMT) plans to launch a new 'constant control system' (CCS), a technology which can be incorporated into gas grills to provide better temperature control. Customers purchasing the Small or Large Firecracker grill will be able to select a standard grill or pay more for a CCS model which uses the new technology.

You receive the following email:

From: Savita Sharma, Finance Manager

To: Finance Officer

Subject: Grill sales

Before it considers the potential impact of the new CCS technology on future sales, the SMT wishes to review the current expected demand for our existing gas grills. I have prepared a graph (Graph 1 attached) based on past data which shows both the volumes of all the gas grills that we have sold since October 2018 and a centred four-point moving average based on our quarterly sales data.

Please prepare a briefing note for the SMT which explains, with reference to Graph 1:

- The components which make up a time series analysis.

(sub-task (a) = 28%)

- The limitations of using our past sales data with a time series analysis to forecast future sales volumes.

(sub-task (b) = 24%)

The CCS grill models are expected to impact the sales volumes of gas grills, as we will attract customers away from our competitors; although we realise that some customers who would have bought our existing models will now buy a CCS grill instead. A key factor in this is likely to be the initial selling prices chosen for the new models (the SMT will review the selling prices after 6 months).

To help with planning, the SMT would like to explore the possible impact of various prices for the Small CCS Firecracker model. They will look at other models after this analysis. I have prepared a payoff table (Table 1 attached). This shows the contribution for the next 6 months expected from sales of this new model at three price points net of the contribution lost due to lower sales of the existing model. I have also prepared a regret matrix (Table 2 attached).

Please include in your briefing note an explanation of:

- The figures shown in Table 1.

(sub-task (c) = 20%)

- How the maximax, maximin and minimax regret decision criteria would be used to select the selling price, stating the selling price that would be chosen under each criterion.

(sub-task (d) = 28%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Graph 1: Sales volumes of FireWorks gas grills October 2018 to September 2022**Note:**

O-D = October to December
J-M = January to March
A-J = April to June
J-S = July to September

Table 1: Payoff table - Net contribution from sale of CCS model of the Small Firecracker – February to July 2023

	Selling price of CCS model		
	B\$	B\$	B\$
	770	820	930
Impact on existing model			
Low	859,514	816,481	771,695
Medium	598,236	633,586	588,800
High	389,214	502,948	536,545

Table 2: Regret matrix

	Selling price of CCS model		
	B\$	B\$	B\$
	770	820	930
Impact on existing model			
Low	0	43,033	87,819
Medium	35,350	0	44,786
High	147,331	33,597	0

Note

The selling price shown in each case is the weighted average selling price (taking account of the different prices charged in each of the distribution channels), for each of the three pricing options being considered.

Reference Material

Pre-seen

Write the briefing note requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Grill sales



Reference Material

Pre-seen

It is now 12 December 2022. The Senior Management Team (SMT) took the decision to source the components required for the constant control system (CCS) temperature controllers from an external supplier. The components to make the controllers will be assembled in-house (in order to safeguard the technology), but new machinery will need to be purchased in order to do so.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Supplier for the CCS technology machinery and website sales

The new grill technology is going to have a significant impact on our cash flow. FireWorks currently has a large cash balance available to fund the capital costs of the new machinery required. However, we need to finance both additional working capital and a promotional budget for the new models. The SMT is keen to avoid a cash deficit arising by managing cash and working capital more effectively. I have therefore prepared a table showing our key working capital metrics as at 30 November 2022 (Table 1 attached).

Please prepare a briefing paper for the SMT which explains:

- The actions we could take to manage our cash and working capital more effectively and so avoid a cash deficit arising, including any potential implications of these actions.

(sub-task (a) = 40%)

Because of the complexity and expense of the new machinery needed, it will initially be leased, until the levels of future demand are more certain. Newer members of the SMT have requested details of how the lease will be treated in our financial statements. Details of the lease are in Table 2 (attached).

I will deal with the lease liability myself but please include a section in your briefing paper which explains:

- How the right-of-use asset will be initially measured and how it will impact our financial statements for the year ending 30 June 2023.

(sub-task (b) = 24%)

We will be promoting our products extensively on our website. Up to now we have only reviewed the data that we collect on our web sales in an informal way. However, moving forward, the SMT requires more formal key performance indicators (KPIs) which can be used to assess the success of our website in generating sales.

Please include in your briefing paper:

- Suggestions for three KPIs, suitable for appraising the success of our website in generating sales, explaining how each would be measured and why it would be appropriate.

(sub-task (c) = 36%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Details of current working capital metrics as at 30 November 2022

Inventory days	68
Trade receivable days	45
Trade payable days	(51)
Working capital cycle	62

Table 2: Details of lease arrangement

Annual lease payments	B\$1,070,000
Lease arrangement fee	B\$27,000
Lease commencement date	1 January 2023
First lease payment due	1 January 2023
Lease period	4 years
Useful life of underlying asset	6 years
Owner at end of lease period	Lessor
Interest rate implicit in the lease	5%

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Supplier for the CCS technology machinery and website sales



Reference Material

Pre-seen

It is 2 weeks later, and the Sales and Marketing Team have been in talks over the final price to set for the grills.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Relevant costing and the costing systems in use at FireWorks

The Senior Management Team (SMT) wishes to know the minimum price that we could charge for the Small Firecracker constant control system (CCS) grill, as it is considering offering an initial lower price to encourage early sales. To assist us in arriving at this price, it has been suggested that we use a relevant costing approach. I have therefore provided you with a summary of the estimated standard production costs based on information provided by Mavis Jones, Production Director (Table 1 attached).

Please provide a briefing paper for the SMT which explains:

- With clear justifications, whether each of the costs in the attached schedule and accompanying notes is relevant for determining the minimum price.

(sub-task (a) = 28%)

- Whether a relevant cost approach to price setting would be appropriate in this situation.

(sub-task (b) = 20%)

During my conversations with Mavis, she asked about our costing methods. I sent her a copy of the summary management accounts for the original Small Firecracker grill (see Table 2 of the attached schedule): This shows the profits for weeks 1 and 2 of the current quarter, first using our usual absorption costing method, then using marginal costing principles. She has replied asking why the marginal costing gives a higher profit than absorption costing in both weeks. She also asked why we use absorption costing as she has heard several criticisms of the approach.

Please provide a briefing paper for Mavis which:

- Explains the differences between the profit statements, and the profits they show, in each of the two weeks. Please also explain the benefits to our business of using an absorption costing approach.

(sub-task (c) = 52%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Cost of the Small Firecracker CCS model over the first six months of production

	Notes	B\$
Direct material	1	487,500
Direct labour	2	59,550
Production overheads	3	131,250
IT costs	4	67,950
Amortisation cost	5	22,500
Total cost		768,750
Cost per unit		410

Notes:

1. The additional components and raw materials that will be required exclusively for the CCS model will cost B\$95,625. Other components and raw materials are required, which are in continual use elsewhere in the business. These are held in inventory at a cost of B\$391,875, and the cost of replacing this inventory would be B\$420,000.
2. The cost for direct labour is the total cost for the four production departments. Workers in all departments are paid for a fixed number of hours at a standard hourly rate. However, the new models will require additional assembly time, as they are more complex to put together. Since time in the Assembly Department is in short supply, we expect that 35% of the grill assembly will need to be completed in overtime, which will be paid a premium of 50% above the normal hourly rate. The remaining 65% of production should be completed within the scheduled fixed hours paid.
3. Production overheads have been charged to production using the appropriate direct labour hour or machine hour absorption rates in each production department. The exact split between fixed and variable overheads varies between the departments, but overall, approximately 80% of production overheads are fixed and 20% are variable.
4. The IT costs consist of the costs of bringing in an external technician every 3 weeks to reprogram new computerised testing machinery plus a share of the company-wide IT departmental costs.
5. The development of the new technology cost B\$225,000. The development costs will be amortised over 5 years.

Table 2: Profit statements for the original Small Firecracker grill for weeks 1 and 2 using standard absorption costing and marginal costing

	Week 1		Week 2	
Number of units produced		300		325
Number of units sold		315		355
	B\$	B\$	B\$	B\$
Absorption costing				
Sales		189,000		213,000
Cost of sales				
Opening inventory	18,180		13,635	
Production cost	90,900		98,475	
Closing inventory	(13,635)		(4,545)	
		(95,445)		(107,565)
(Under)/over absorption		(200)		1,875
Gross profit		93,355		107,310
Marginal costing				
Sales		189,000		213,000
Cost of sales				
Opening inventory	15,120		11,340	
Production cost	75,600		81,900	
Closing inventory	(11,340)		(3,780)	
		(79,380)		(89,460)
Contribution		109,620		123,540
Actual fixed production overhead		(15,500)		(14,700)
Profit		94,120		108,840

Notes:

1. Budgeted fixed production overhead was rounded down to B\$51 per unit, and budgeted weekly production was 310 units.
2. Opening inventory in Week 1 was 60 units.
3. Other than fixed production overhead, all other costs and selling prices were as standard.

Reference Material

Pre-seen

Write the briefing papers requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Relevant costing and the costing systems in use at FireWorks



Reference Material

Pre-seen

It is now 22 July 2023. The new constant control system (CCS) grill has been on sale since February 2023.

You receive the following email:

From: Savita Sharma, Finance Manager

To: Finance Officer

Subject: Grill production

Over the past 4 months, we experienced higher-than-expected demand for all our grills, and this led to challenges in achieving the production levels required. We had to buy additional machinery and recruit additional staff into all production departments, including taking on extra supervisors. Pressure was particularly intense in the Assembly Department where new staff had to work with little training and were required to work more overtime than we had anticipated.

The Senior Management Team (SMT) is keen to understand the impact of these changes and make any further improvements needed. It has asked, in particular, to see the fixed production overhead variances for the Assembly Department for the 4 months to June 2023 (Table 1 attached).

Please prepare a briefing note which explains:

- The meaning of each of the fixed production overheads variances shown in Table 1, including the possible reasons why the variance has occurred and whether it provides management with useful information.

(sub-task (a) = 44%)

Although the SMT is delighted with higher-than-expected grill sales, it is concerned that, as a result of this, many areas of the business were not operating as efficiently as they could have done. One department that had real problems was the Packing Department, and the SMT believes that part of the issue was our use of an incremental approach to budgeting. Some SMT members have been asking about the benefits of a 'beyond budgeting' approach.

Please therefore include in your briefing note an explanation of:

- How the principles of a 'beyond budgeting' approach might apply to the Packing Department, and the benefits for FireWorks of using a 'beyond budgeting' approach.

(sub-task (b) = 32%)

Lastly, we are in the process of finalising the financial statements for the year ended 30 June 2023 and need to consider two issues which may have an effect on them. The issues are included in Table 2 (attached).

Please include in your briefing note an explanation of:

- How each issue should be treated in our financial statements for the year ended 30 June 2023.

(sub-task (c) = 24%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Fixed production overhead variances for the Assembly Department for the 4 months to 30 June 2023

Fixed production overhead variance	B\$	
Expenditure	12,936	Adverse
Capacity	39,527	Favourable
Efficiency	10,467	Adverse
Total	16,124	Favourable

Notes

1. Overheads in the Assembly Department are absorbed on the basis of labour hours.
2. Variances are calculated based on the figures in the original budget.

Table 2: Financial statement queries

Issue	Detail
1	In the middle of April, we discovered that one of our competitors was producing a gas grill that appeared to be using our new CCS technology in breach of our legal patented right to its exclusive use. We threatened legal action for damages, but at the end of June 2023, the matter remained unresolved. On July 8, we settled the matter without recourse to the courts and received B\$327,000 in final settlement of the action.
2	Two weeks ago, on July 5, there was a small fire in the warehouse. Luckily it was in an area where limited inventory is stored and less than a week's production was damaged.

Reference Material

Pre-seen

Write the briefing note requested by Savita Sharma in the box below.

From: Finance Officer

To: Savita Sharma, Finance Manager

Subject: RE: Grill production





Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 36% (b) 28% (c) 36%
2	45	1	3	(a) 32% (b) 32% (c) 36%
3	45	1	3	(a) 32% (b) 20% (c) 48%
4	45	1	3	(a) 36% (b) 24% (c) 40%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2022. Advance orders for all grill models have been higher than expected.

You receive the following email:

From: Savita Sharma, Finance Manager

To: Finance Officer

Subject: Fixed overhead variances, feedback control and profit-volume chart

Catherine Wheeler, Managing Director, has asked for a review of the recent performance of the Production Facility to go to the Senior Management Team (SMT). Attached in Table 1 are the fixed production overhead variances for November for the Steel Pressing & Welding Department.

Please prepare content for a report to the SMT which explains:

- What each of the four variances in Table 1 means and possible reasons for their occurrence.

(sub-task (a) = 36%)

When I recently spoke to Catherine, she mentioned that she had read a management article about the importance of a feedback control system for budgetary control.

She has requested a section in the report to the SMT which explains:

- What is meant by a feedback control system and how it is applied in our business, using the variances in Table 1 to illustrate your explanation.

(sub-task (b) = 28%)

Due to the high level of advance orders, the SMT has agreed to an expansion and re-organisation of the Production Facility, starting immediately. Based on both the impact of higher sales and the expansion, we have revised the budget for the 6 months to 30 June 2023. Catherine has asked for an analysis of the breakeven position of the business based on this revised 6-month budget, and I have drawn a profit-volume chart for our three product ranges to show this (Chart 1 attached). She has asked how this chart would be affected if during the 6-month period:

- a. For the revised sales volume, a greater proportion is sold through the retailers and a lower proportion through the website for all grill types, assuming that the mix between grill types remains the same.
- b. For the revised sales volume, a greater proportion of electric grills and a lower proportion of charcoal grills is sold, assuming that the mix between retailer and website sales remains the same.

Please prepare content for the report to the SMT which explains:

- What the chart tells us about breakeven and margin of safety based on the revised budget. Please also explain how the chart and break-even position would be affected by the two potential changes to the budgeted sales mix identified above, considering the impact for each change independently of the other.

(sub-task (c) = 36%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Fixed production overhead variances for November 2022 for the Steel Pressing & Welding Department

Fixed overhead variance	B\$	
Expenditure	17,800	Adverse
Efficiency	16,656	Adverse
Capacity	43,324	Favourable
Total	8,868	Favourable

Notes:

- To cope with higher-than-budgeted production in November, the following happened in the department:
 - Extra welding equipment was hired on short-term rental.
 - An additional welding supervisor was employed, who is paid a fixed salary each month.
 - Five new inexperienced welders were employed at the start of the month.
 - Significant overtime was worked by all employees.
- The base for the overhead absorption rate is labour hours.

Chart 1: Multi-product profit-volume chart for the revised budget for the 6 months to 30 June 2023



Notes:

- The fixed costs shown on the chart are the fixed production overheads plus fixed selling, distribution, marketing and administration costs.
- The average contribution to sales (c/s) ratio, based on the revised budget for each grill range, is as follows:

Grill range	C/S Ratio
Gas	0.51
Charcoal	0.40
Electric	0.64

- The average budgeted c/s ratios are based on the average selling prices, variable costs and mix of products for each grill range. It is also based on the expected mix of sales through our website and to retailers.
- The c/s ratios for website sales are higher than the c/s ratios for retailer sales.

Reference Material

Pre-seen

Write the content for the report requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a link icon (Ix).

Below the first row of icons is a second row of icons: a dropdown menu labeled 'Paragraph', a table icon, four horizontal alignment icons (left, center, right, justified), a bulleted list icon, a numbered list icon, and two indent/outdent icons.

Pre-seen

A week later, Savita Sharma, Finance Manager, says the following to you:

“At the Senior Management Team (SMT) meeting yesterday, Mavis Jones, Production Director, expressed her concern that employee morale in the Production Facility is low. She believes that this is partly due to recent high levels of overtime but is also due to dissatisfaction with the current working environment.

To help improve the working environment, as part of the expansion and re-organisation of the Production Facility, Mavis has suggested providing an on-site cafe, providing refreshments to employees at prices subsidised by the company. She believes that this would boost employee morale because currently employees bring in their own food and refreshments that they eat in small uncomfortable break areas. This cafe service could be provided internally or outsourced. The level of service is yet to be considered, but may include the provision of just drinks and snack foods or include a complete meal and snack service. Ben Bruce, Finance Director, has suggested that a zero based budgeting (ZBB) approach is used to create a budget for this.

Please prepare a briefing paper to the SMT which explains:

- How a ZBB approach can be applied to create a budget for the new on-site cafe service.

(sub-task (a) = 32%)

- Two benefits to the business and two challenges that we might face when using a ZBB approach to create this budget.

(sub-task (b) = 32%)

Pre-seen

A week later, Savita Sharma, Finance Manager, says the following to you:

“At the Senior Management Team (SMT) meeting yesterday, Mavis Jones, Production Director, expressed her concern that employee morale in the Production Facility is low. She believes that this is partly due to recent high levels of overtime but is also due to dissatisfaction with the current working environment.

To help improve the working environment, as part of the expansion and re-organisation of the Production Facility, Mavis has suggested providing an on-site cafe, providing refreshments to employees at prices subsidised by the company. She believes that this would boost employee morale because currently employees bring in their own food and refreshments that they eat in small uncomfortable break areas. This cafe service could be provided internally or outsourced. The level of service is yet to be considered, but may include the provision of just drinks and snack foods or include a complete meal and snack service. Ben Bruce, Finance Director, has suggested that a zero based budgeting (ZBB) approach is used to create a budget for this.

Please prepare a briefing paper to the SMT which explains:

- How a ZBB approach can be applied to create a budget for the new on-site cafe service.
(sub-task (a) = 32%)
- Two benefits to the business and two challenges that we might face when using a ZBB approach to create this budget.
(sub-task (b) = 32%)

Mavis also suggested that once set up, the performance of the on-site cafe should be monitored with a series of key performance indicators (KPIs).


Please include in your briefing paper:

- Suggestions of three KPIs that are appropriate to monitor the performance of the new on-site cafe. Please explain how each KPI would be measured and why it would be appropriate.”
(sub-task (c) = 36%)

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a link icon (Ix).

A second row of icons includes: a paragraph dropdown menu, a table grid icon, four horizontal alignment icons (left, center, right, justified), a bulleted list icon, a numbered list icon, and two indent/outdent icons.

Reference Material

Pre-seen

It is now mid-January 2023, and the expansion and reorganisation of the Production Facility is progressing. In addition, a new model of electric grill, called the Fountain, has been developed and will be launched on 1 March 2023.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Financial statements and Fountain app

We have just signed an agreement to lease new pressing equipment, details of which are included in Table 1 attached.

Please prepare a briefing paper for the SMT which explains:

- How the lease for pressing equipment will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2023.

(sub-task (a) = 32%)

During re-organisation of the welding area, some welding equipment was damaged. This equipment was purchased on 1 July 2022 for B\$100,000 and was being depreciated over its 8-year life, assuming a nil residual value. The damage happened on 1 January 2023 and was quickly repaired at a cost of B\$12,000. However, due to the damage, the useful life of the welding equipment has been reduced to 5 years from 1 January 2023.

Please include in your briefing paper an explanation of:

- How to account for the damaged welding equipment in our financial statements for the year ending 30 June 2023.

(sub-task (b) = 20%)

The new Fountain electric grill will be controllable via an app that our customers can download for free onto their smartphone or tablet and which will be available from three different service providers. Each service provider will charge us a fee for hosting the app and a fee per download. The app has already been developed by ExcelApps at a cost to us of B\$700,000 plus a future royalty of B\$0.50 per download of the app. The app will be stored on our own servers and will be administered by our own IT Department, with ExcelApps providing technical support.

Please include in your briefing paper an explanation of:

- The type, nature and cost behaviour of the future costs associated with the app. Please also explain the difficulties associated with establishing a cost per download of the app.

(sub-task (c) = 48%)

Savita Sharma
Finance Manager
FireWorks

The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Lease for the pressing equipment

Lease commencement	1 February 2023
First payment due	1 February 2023
Lease arrangement fee	B\$4,000
Annual lease payment, payable on 1 February each year	B\$150,000
Number of annual lease payments	8
Interest rate implicit in the lease	10%
Useful life of the pressing equipment	10 years
Ownership of the underlying asset at the end of the lease term	Lessee

Notes:

- The pressing equipment will be installed during February and will be available for use on 1 March 2023.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a link icon (Ix).

A second row of icons includes: a paragraph dropdown menu, a table grid icon, four horizontal alignment icons (left, center, right, justified), a bulleted list icon, a numbered list icon, and two indent/outdent icons.

Reference Material

Pre-seen

It is now February 2023, and you receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Supplier decision for wood pellets and new retailers

The Senior Management Team (SMT) has decided to sell a range of wood pellets for our electric grills. Two potential suppliers have been identified, WoodSmoke and FirePellet, each offering exclusive 12-month supply contracts. WoodSmoke is offering two potential contracts, one of which would require us to fund a specific promotional campaign for wood pellets.

We do not know how the market will react to the inclusion of wood pellets in our accessories range. Based on estimates of the likelihood of a good, reasonable and poor reaction, I have calculated estimated profit for each of the three potential contracts (Table 1 attached). I have also calculated the expected value, standard deviation and coefficient of variation for each potential contract (Table 2 attached). We have been offered perfect information about this decision for a fee of B\$80,000, and so I have also calculated the value of perfect information (Table 3 attached).

Please prepare a briefing paper for the SMT which explains:

- How the decision about which potential contract to choose will be made using a risk neutral, risk seeking and risk averse approach, stating the choice made under each approach. Please include one limitation of using each approach to make this decision.

(sub-task (a) = 36%)

- Based on the information in Tables 1 and 2, how the risk attitude of the SMT will impact on its willingness to pay for the perfect information.

(sub-task (b) = 24%)

We have been approached by two new retailers which want to stock our range of electric grills and accessories: SmartCook and OutsideLiving. Attached in Table 4 is some information about each of these potential retailers.

Please include in your briefing paper an explanation of:

- The factors to be considered when setting credit limits for SmartCook and OutsideLiving, using the information in Table 4.

(sub-task (c) = 40%)

Savita Sharma
Finance Manager
FireWorks

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Profit from each supply contract (after promotional campaign costs in Contract 2)

Market reaction	Probability	WoodSmoke		FirePellet
		Contract 1 B\$000	Contract 2 B\$000	Contract 3 B\$000
Good	0.3	800	1,075	640
Reasonable	0.5	435	498	440
Poor	0.2	275	(80)	400

Table 2: Decision-making information

	Contract 1 B\$000	Contract 2 B\$000	Contract 3 B\$000
Expected value	513	556	492
Standard deviation	198	404	98
Coefficient of variation	0.39	0.73	0.20

Table 3: The value of perfect information

	B\$000
The value of perfect information	96*

* This is before payment of the B\$80,000 fee.

Table 4: Information about potential retailers (based on their financial statements for the year ended 31 December 2022)

	SmartCook	OutsideLiving
Inventory days*	124 days	81 days
Payable days*	92 days	42 days
Revenue	B\$120 million	B\$11 million
Growth in revenue from 2021 to 2022	-5%	+15%
(Overdraft) / cash balance	(B\$1.1 million)	B\$0.2 million

*Industry average inventory days are 90, and industry average payable days are 55.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a subscript icon (I_x). Below these are two rows of alignment and list icons: the first row contains a paragraph dropdown, a table dropdown, and four text alignment icons (left, center, right, justified); the second row contains two list icons (bulleted and numbered) and two indent icons (left and right).



Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.





Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	2	(a) 52% (b) 48%
2	45	1	2	(a) 52% (b) 48%
3	45	1	3	(a) 36% (b) 28% (c) 36%
4	45	1	3	(a) 36% (b) 40% (c) 24%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

It is 1 December 2022. Catherine Wheeler, Managing Director, has been developing several new initiatives, including GrillSkill, a range of pop-up cookery classes, which she is considering launching throughout Beeland.

You receive the following email:

From: Savita Sharma, Finance Manager

To: Finance Officer

Subject: Rolling budgets and time series

GrillSkill will be the first offering of this type of grill-cookery class in Europe and, at this stage, it is difficult to gauge how successful it might be. Also, as it is the first of many initiatives being developed by Catherine, budgeting is going to become increasingly difficult, as the level of uncertainty we face increases. Ben Bruce, Finance Director, has suggested that we consider using rolling budgets.

Please prepare a briefing paper for the Senior Management Team (SMT) which explains:

- What a rolling budget is and the potential benefits and drawbacks of adopting rolling budgets throughout the business.

(sub-task (a) = 52%)

The SMT will be meeting soon to discuss whether to launch GrillSkill. To get an idea of the size of the potential market, Catherine sent me sales information for Udenfor cookery classes. As Catherine is proposing a similar business model, she believes GrillSkill will develop in the same way. I have used the sales information to prepare a time series analysis (Schedule 1 attached).

Please prepare a briefing paper for the SMT which explains:

- What the time series information in Schedule 1 tells us about demand for Udenfor cookery classes in North America and the usefulness of this information for the purpose of planning our new GrillSkill initiative.

(sub-task (b) = 48%)

Savita Sharma
Finance Manager
FireWorks

The attachment to this email can be found by clicking on the Reference Material button above.

Schedule 1: Time series information for Udenfor cookery classes in North America

These results are based on the quarterly number of classes that were run by Udenfor from January 2015 to December 2019.

Trend line

$$Y = 600 + 30Q$$

Key:

Y = number of classes a quarter.

Q = the quarter number (where Q = 1 is the first quarter of 2015).

Average seasonality

January–March	-70%
April–June	+60%
July–September	+50%
October–December	-40%

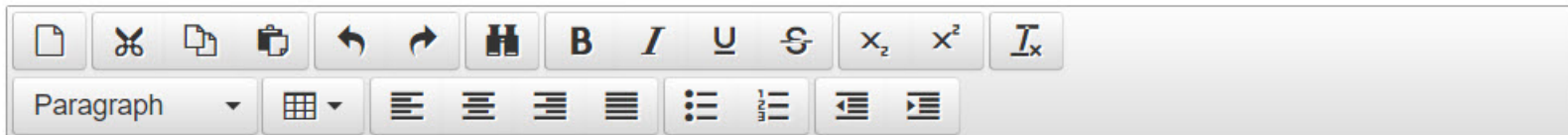
Notes

- The maximum number of delegates in a class is 20.
- Udenfor will never cancel a class, even if it is loss making. A scheduled class will run with a single delegate.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a link icon (Ix).

A second row of icons includes: a paragraph dropdown menu, a table icon, four horizontal alignment icons (left, center, right, justified), a bulleted list icon, a numbered list icon, and two indent/outdent icons.

Reference Material

Pre-seen

It is now February 2023. It has been decided to launch GrillSkill classes throughout Beeland on 1 May 2023. These open-air classes, hosted from a specially adapted truck, will use only FireWorks grills. Some classes will be hosted by celebrity chefs.

You receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: GrillSkill initial expenditure and breakeven

Catherine Wheeler, Managing Director, has sent me a list of the initial expenditure on GrillSkill, which she believes will need to be capitalised. This information is included in Table 1 (attached).

Please prepare a briefing paper for Catherine which:

- Explains, with appropriate justification, how each item included in Table 1 will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2023.

(sub-task (a) = 52%)

We have developed four types of class, none of which assume any previous knowledge of grilling. All classes will be run by freelance chef demonstrators, no class will last longer than a day and delegates will bring their own ingredients. GrillSkill X has the shortest duration and lowest price.

Although we are budgeting to have 16 delegates in each type of class, Catherine would like to see the effect that fewer delegates would have on the GrillSkill breakeven point and total annual profit. I have prepared a multi-product profit-volume chart (Chart 1 attached) based on 16 delegates (Line A) or 12 delegates (Line B) enrolling on each class.

Please include in the briefing paper an explanation of:

- What Line A on Chart 1 indicates about the GrillSkill budget, breakeven and margin of safety. Please also explain the reasons for and implications of the differences between lines A and B.

(sub-task (b) = 48%)

Savita Sharma
Finance Manager
FireWorks

The attachments to this email can be found by clicking on the Reference Material button above.

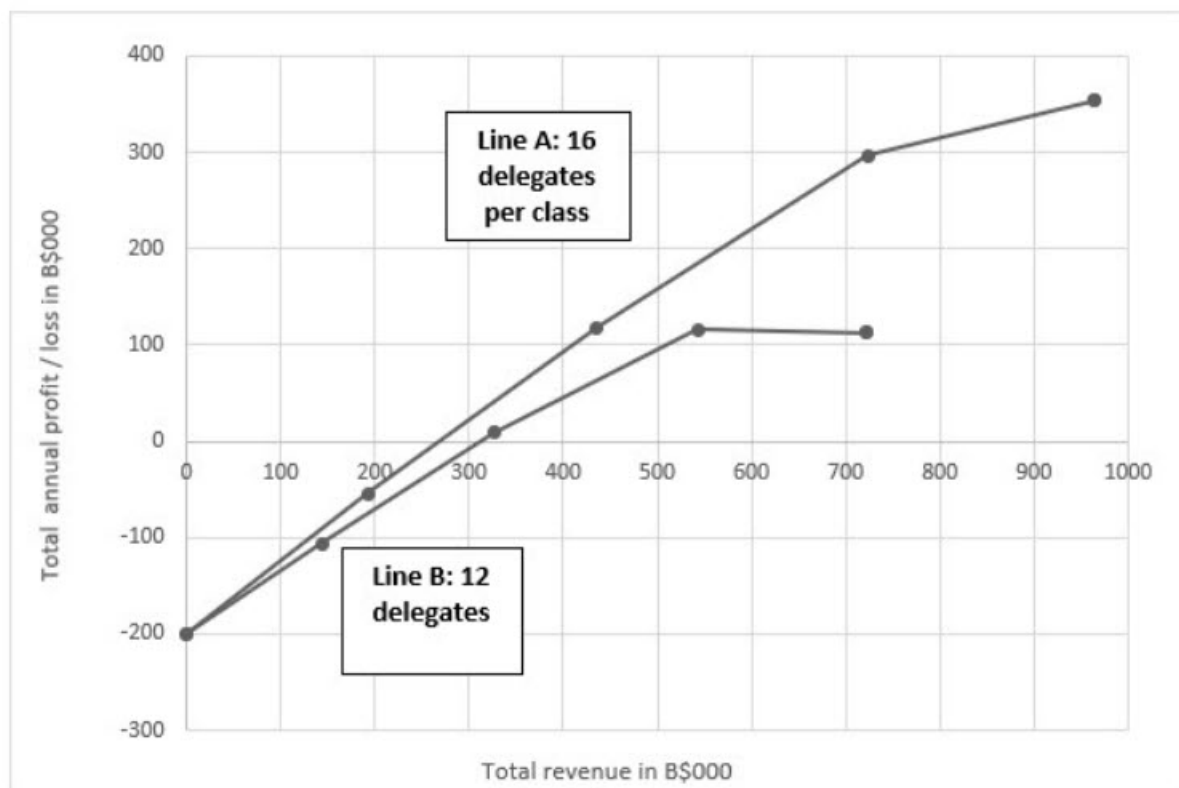
Table 1: Initial expenditure for GrillSkill

Expenditure item	Note	B\$
Events truck	1	146,000
Grills	2	0
Training for chef demonstrators	3	6,000

Notes:

1. The events truck will be available for use from 1 May 2023. The total of B\$146,000 includes:
 - Purchase price of B\$90,000. The truck will be purchased on 1 April 2023. We expect it to have a useful life of 10 years from its first use. After this time, we expect to be able to sell it for B\$5,000.
 - Truck refit costs of B\$50,000. Before we use the truck for GrillSkill, it will need to be refitted to facilitate classes. This refit will be completed on 1 May 2023. A complete refit will be necessary every 5 years.
 - Import duty of B\$4,500.
 - Insurance of B\$1,500. This is an annual charge and will be due from 1 April 2023.
2. As the grills will be manufactured in-house, there is no cost. We have decided to scrap and replace grills every 2 years.
3. No chef will be able to run a GrillSkill class without this training. Training will take place in April.

Chart 1: Multi-product profit-volume chart for budgeted annual number of GrillSkill classes with 16 delegates or 12 delegates each class



Notes

- The contribution to sales margins used for the chart are as follows:

Class name	Line A (16 delegates a class)	Line B (12 delegates a class)
GrillSkill Z	76%	68%
GrillSkill Y	71%	61%
GrillSkill X	62%	49%
Celebrity chef	24%	-0.02%
Weighted average	57%	43%

- The same number and mix of classes apply to both Line A and Line B.
- The delegate price per class is unchanged from Line A to Line B.
- The variable cost per class is unchanged from Line A to Line B. The variable costs are driven by the number of classes and not the number of delegates.
- The fees per class charged by celebrity chefs are much higher than the fees per class charged by the other chefs. It is believed that the publicity that these classes might generate will benefit the entire venture.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a subscript icon (I_x). Below these are two rows of alignment and list icons: the first row contains a paragraph dropdown, a table dropdown, and four text alignment icons (left, center, right, justified); the second row contains two list icons (bulleted and numbered) and two indent icons (left and right).

Reference Material

Pre-seen

It is now a few weeks later. It has been decided that GrillSkill delegates attending classes in May will receive a free food thermometer. The thermometer will consist of two parts, an app that can be downloaded to any smartphone and a physical temperature probe. The app will link the probe readings to specific GrillSkill recipes and monitor temperature remotely. The company that will help develop the app has already been chosen, but the supplier of the probe has not.

Savita Sharma, Finance Manager, says to you:

“The Senior Management Team (SMT) need to choose the supplier of the probes for the May GrillSkill delegates. It is an important decision because we intend to sell these thermometers as part of our FireWorks accessories range from July. We have shortlisted three potential suppliers and Table 1, which I will give you shortly, includes information about these.

Please prepare a briefing paper for the SMT that explains:

- For each of the three potential suppliers, what the information contained in Table 1 indicates about their approach to working capital management. Please also comment on their suitability as our probe supplier.
(sub-task (a) = 36%)

As this is the first occasion we have been involved in the development of a smartphone app, the SMT would like to understand how the costs of a digital product differ from those of a physical product.

Please include in the briefing paper an explanation of:

- How the costs of the smartphone app differ, specifically in terms of the type of costs and the timing of their occurrence, compared to the costs of the probes.
(sub-task (b) = 28%)

FireWorks is also planning a launch party for GrillSkill. The SMT are trying to reduce the costs of the party. It had previously decided to give gifts to attendees but is now thinking about not doing so. The Marketing Department has produced costings for the gifts that were intended to be given (Table 2). Ben Bruce, Finance Director, has suggested that these costs are restated on a relevant costing basis.

Please include in the briefing paper an explanation of:

- The relevant cost of each item in Table 2 in order to help the SMT make the decision about whether or not to give gifts to guests at the launch party.”
(sub-task (c) = 36%)

Savita then hands you Table 1 and Table 2, which can be found by clicking on the Reference Material button above.

Table 1: Potential suppliers of probes

	Probity	ThermStik	Mercury
Receivable days	68 days	31 days	40 days
Payable days	82 days	79 days	42 days
Inventory days	9 days	16 days	21 days
Cash / (overdraft) balance	(B\$3 million)	B\$1 million	B\$2 million
Revenue in 2022	B\$12 million	B\$8 million	B\$21 million
Change in revenue from prior year	+19%	+6%	+ 12%
Number of years trading	2	6	6

Table 2: Cost of the launch-party gifts

		Notes	B\$
Insulated cooler bags	500 @ B\$8	1	4,000
Bag contents	500 @ B\$30	2	15,000
Labour	30 hours @ \$17 per hour	3	510
Grills	2 @ B\$1,100	4	2,200
Total cost			21,710
Cost per unit			43.42

Notes:

1. We bought these in error a year ago, and it is wonderful that they have a use at last. Each bag cost us B\$7, but the same bag would cost B\$8 if we purchased it now.
2. These include aprons, corkscrews and tongs, all customised with the GrillSkill logo and launch-party date. All items were ordered weeks ago.
3. The bags need packing with the other gift items. Sye Kanani, Head of Packing, says there is no spare capacity available in normal working hours and any labour we use will have to be paid a premium of 50% above the normal rate. As overtime premium is usually treated as overhead, I have not included it.
4. Two bags will contain a "golden-ticket" entitling the recipient to a large Firecracker gas

Table 2: Cost of the launch-party gifts

		Notes	B\$
Insulated cooler bags	500 @ B\$8	1	4,000
Bag contents	500 @ B\$30	2	15,000
Labour	30 hours @ \$17 per hour	3	510
Grills	2 @ B\$1,100	4	2,200
Total cost			21,710
Cost per unit			43.42

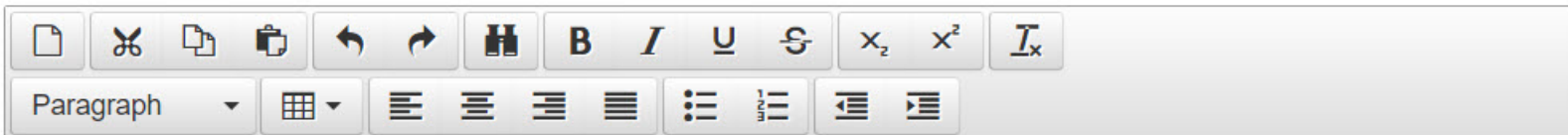
Notes:

1. We bought these in error a year ago, and it is wonderful that they have a use at last. Each bag cost us B\$7, but the same bag would cost B\$8 if we purchased it now.
2. These include aprons, corkscrews and tongs, all customised with the GrillSkill logo and launch-party date. All items were ordered weeks ago.
3. The bags need packing with the other gift items. Sye Kanani, Head of Packing, says there is no spare capacity available in normal working hours and any labour we use will have to be paid a premium of 50% above the normal rate. As overtime premium is usually treated as overhead, I have not included it.
4. Two bags will contain a "golden-ticket" entitling the recipient to a large Firecracker gas grill. The cost shown is the website price.

Reference Material

Pre-seen

Write the briefing paper requested by Savita in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a subscripted x icon (I_x). Below these are two rows of alignment and list icons: the first row contains a paragraph dropdown, a table dropdown, and four text alignment icons (left, center, right, justified); the second row contains two list icons (bulleted and numbered) and two indent icons (left and right).

Reference Material

Pre-seen

It is October 2023, and GrillSkill has been operational for 5 months.

You receive the following email:

From: Savita Sharma, Finance Manager

To: Finance Officer

Subject: GrillSkill classes' sales variances, KPIs and costing methods

The GrillSkill sales variances and KPIs for the quarter July to September 2023, and associated notes, are included in Schedule 1 (attached).

Please prepare a briefing paper for the Senior Management Team (SMT) that explains:

- Possible reasons why the KPIs in schedule 1 have been achieved. Please also explain why the KPIs provide useful information about GrillSkill classes.

(sub-task (a) = 36%)

- The meaning of each of the sales variances for the GrillSkill classes in schedule 1 and possible reasons why they have arisen.

(sub-task (b) = 40%)

As the demand for GrillSkill classes is highly seasonal, the SMT requested that I produce simplified profit statements using both absorption and marginal costing. Examples are included in schedule 2 (attached). I have been asked to explain a couple of points regarding the principles behind the different methods and want you to write the first draft.

Please include in the briefing paper an explanation of:

- The over absorption figures in the absorption costing profit statements in schedule 2. Please also explain why the profit figures are the same for both absorption and marginal costing and whether this is likely to always be the case for GrillSkill.

(sub-task (c) = 24%)

Savita Sharma
Finance Manager
FireWorks

The attachments to this email can be found by clicking on the Reference Material button above.

Schedule 1: GrillSkill KPIs and sales variances for the Quarter July–September 2023

	KPI	Budget	Actual
1	Delegates enrolled per class as a percentage of class capacity	80%	84%
2	Percentage of delegates who booked further classes	20%	42%
3	Average number of classes per day	1.18	1.21

Variance	Class name				Total B\$
	GrillSkill X B\$	GrillSkill Y B\$	GrillSkill Z B\$	Celebrity chef B\$	
Sales price	2,550 F	9,400 F	7,200 F	0	19,150 F
Sales quantity profit					3,133 F
Sales mix profit					2,832 A

Information and notes:

- The individual units method, based on number of classes, has been used to calculate the variances.
- The sales price variances are calculated as the difference between the actual revenue and the standard price per class multiplied by the actual number of classes.
- All delegates paid the standard fee for every class.
- Celebrity chef, Olivia James, was taken ill, and three classes had to be cancelled.
- July editions of "Foodie" and "Outdoor life" magazines gave GrillSkill glowing reviews.
- Other information is as follows:

	Class name				Total
	GrillSkill X	GrillSkill Y	GrillSkill Z	Celebrity chef	
Budgeted number of classes	12	47	30	20	109
Actual number of classes	17	47	30	17	111
Standard profit per class (based on 16 delegates per class)	B\$765	B\$1,545	B\$2,180	B\$1,175	

Schedule 2: GrillSkill profit statements for July and August using standard absorption and marginal costing

<u>July</u>	B\$	B\$	<u>August</u>	B\$	B\$
Revenue		194,876	Revenue		199,305
Cost of sales	(112,855)		Cost of sales	(113,730)	
Overabsorption	15,084		Overabsorption	15,109	
Gross profit		97,105	Gross profit		100,684

<u>July</u>	B\$	B\$	<u>August</u>	B\$	B\$
Revenue		194,876	Revenue		199,305
Cost of sales	(80,971)		Cost of sales	(81,121)	
Contribution		113,905	Contribution		118,184
Fixed costs		(16,800)	Fixed costs		(17,500)
Gross profit		97,105	Gross profit		100,684


Notes:

- The fixed overhead absorption rate was calculated using total budgeted annual overhead costs and total budgeted annual number of classes.
- The budgeted monthly fixed cost is B\$17,000.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below:



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a text color icon (Ix).

Below the main toolbar is a secondary row of icons: a paragraph dropdown menu, a table grid icon, four horizontal alignment icons (left, center, right, justified), a bulleted list icon, a numbered list icon, and two indent/outdent icons.



Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 28% (b) 24% (c) 48%
2	45	1	3	(a) 32% (b) 36% (c) 32%
3	45	1	3	(a) 48% (b) 32% (c) 20%
4	45	1	3	(a) 36% (b) 20% (c) 44%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2022. The Senior Management Team (SMT) has decided to establish a regional head-office and distribution centre in Geeland, a European country located a significant distance from Beeland. Grills for this new market will be manufactured in Beeland and exported to Geeland.

Savita Sharma, Finance Manager, says to you:

"We have appointed several experienced managers, chosen for their technical and selling skills, who are already working in Geeland: visiting retailers, researching locations for our distribution centre and evaluating courier companies. However, we have yet to set any formal budgets.

The managers involved in the new market, while not all senior, are likely to be budget holders for their respective areas of responsibility in Geeland for at least 3 years. To motivate them, the SMT want to include a generous bonus element in their remuneration packages. For the sales team, this will probably be linked to the achievement of budgeted sales volumes and profit.

One of the Geeland sales managers told me that they are optimistic that the Geeland market will be worth at least 10% of our total sales, by volume, within a year. They then said that spending time producing a sales forecast for a new market was a waste of time as it could never be 100% accurate and would not impact on other parts of the company.

The SMT believe the budgets for the Geeland operations should be produced using a participative approach to budget setting, as opposed to our usual method. It is also keen that the managers understand how important the Geeland sales forecast is.

Please prepare a briefing paper for the Geeland managers which explains:

- The advantages and disadvantages to FireWorks of using a participative approach to budget setting for the new operations in Geeland.

(sub-task (a) = 28%)

- The importance of a Geeland sales forecast for planning and coordination within FireWorks.

(sub-task (b) = 24%)

The Geeland sales managers have sent me three questions about the costing and budgeting process. These are included in Schedule 1, which I will give you shortly.

Please include in the briefing paper a response to Schedule 1 that:

- Answers the three specific questions posed by the Geeland sales managers, addressing any misunderstandings in relation to the issues raised.

(sub-task (c) = 48%)

Savita then gives your Schedule 1, which can be found by clicking on the Reference Material button above.

Schedule 1: Questions from Geeland sales managers

Question 1

I have read that when absorption costing is used, profits will increase as finished goods inventories increase. Therefore, producing more than we sell will have a positive effect on profit (and bonuses). Why don't we aim to produce more than we sell every period?

Question 2

I have also read that total fixed production costs do not increase when production volume increases. Therefore, although demand in Geeland will necessitate a significant increase in production volume, there should be no corresponding increase in total fixed production costs. So, am I correct in thinking that if we price grills in Geeland at their variable production cost, FireWorks will achieve the same total profit it does at present?

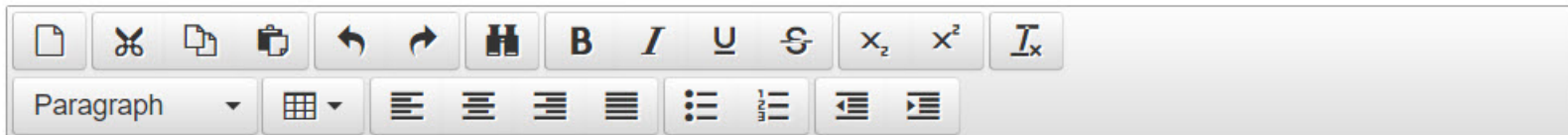
Question 3

There has been lots of talk about marginal costing. Can you explain the benefits and drawbacks of basing selling prices on marginal cost rather than full cost?

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, bold (B), italic (I), underline (U), strikethrough (ABC), subscript (x₂), superscript (x²), and subscripted x (I_x). Below these are two rows of alignment and list icons: the first row has a paragraph dropdown, a table dropdown, and four text alignment icons (left, center, right, justified); the second row has two list icons (bulleted and numbered) and two indent icons (left and right).

Reference Material

Pre-seen

A month later, you receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Choice of courier and what-if analysis

The Logistics Manager in Geeland has shortlisted three courier companies to deliver website orders to customers. All three companies guarantee delivery to customers within a specified 2-hour time slot, and all require us to contract with them exclusively for a year. The Senior Management Team (SMT) need to make the final decision this week and, as demand for grills is uncertain, I have produced a payoff table (Table 1 attached) and a regret table (Table 2 attached) to help it decide.

Please prepare a briefing paper for the SMT which explains:

- How we could use maximax, maximin and minimax regret decision criteria to decide which of the couriers we should choose. Please also state which courier would be selected under each criterion.

(sub-task (a) = 32%)

When the chosen courier delivers products in Geeland, we will need to monitor their performance using key performance indicators (KPIs).

Please include in your briefing paper suggestions of:

- Three KPIs which could be used to assess the performance of the courier service in Geeland, explaining how each would be measured and why each would be appropriate.

(sub-task (b) = 36%)

Draft budgets for the first year of trading in Geeland have been prepared, although some costs still have to be finalised. There is significant uncertainty about price, volume and marketing costs. Ben Bruce, Finance Director, has asked that we prepare a what-if analysis to present to the SMT. I have prepared Table 3 (attached).

Please include in your briefing paper an explanation of:

- Why the two scenarios in Table 3 have different impacts on the original budgeted contribution and profit. Please also explain two limitations of the what-if analysis in this situation.

(sub-task (c) = 32%)

Savita Sharma
Finance Manager
FireWorks

The attachments to this email can be found by clicking on the Reference Material button above.

Table 1: Pay off table showing the cost per delivery charged by each courier during the contract period

Demand	Courier A B\$	Courier B B\$	Courier C B\$
Low	3.80	5.57	3.20
Medium	3.00	3.34	3.20
High	2.55	2.09	3.20

Table 2: Regret table based on Table 1

Demand	Courier A B\$	Courier B B\$	Courier C B\$
Low	0.60	2.37	0
Medium	0	0.34	0.20
High	0.46	0	1.11

Table 3: What-if analysis for the Geeland market first year trading

	Budget B\$000	Scenario 1 B\$000	% Change	Scenario 2 B\$000	% Change
Revenue	7,380	6,974	-5.50%	7,896	+7.00%
Variable costs	(2,843)	(2,559)	-10.00%	(3,042)	+7.00%
Contribution	4,537	4,415	-2.69%	4,854	+7.00%
Fixed costs	(4,297)	(4,297)	0%	(4,527)	+5.35%
Profit	240	118	-50.83%	327	+36.25%

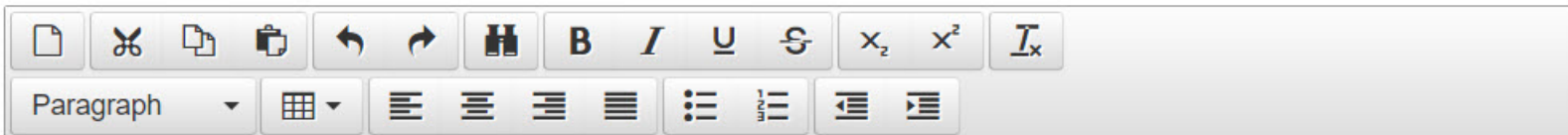
Notes:

1. Scenario 1 increases the average selling price by 5% and assumes this will result in a 10% decrease in volumes sold.
2. Scenario 2 increases fixed marketing spend (included in the fixed costs) by 10% and assumes this will result in a 7% increase in volumes sold.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a subscripted x icon (I_x). Below these are two rows of alignment and list icons: the first row contains a paragraph dropdown, a table dropdown, and four text alignment icons (left, center, right, justified); the second row contains two list icons (bulleted and numbered) and two indent icons (left and right).

Reference Material

Pre-seen

It is August 2023, and demand for FireWorks grills in Geeland has exceeded all expectations. Earlier today, as they were assembled for despatch to Geeland, two types of charcoal grill were discovered to have faults in the enamel.

You receive the following email.

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Inventory valuation and short-term production scheduling

Last week, we completed the draft financial statements for the year ended 30 June 2023. We now know that two types of grill, the Sparkler and Spinner, included in the inventory valuation, had faults in the enamel. The faulty grills would usually be scrapped (although some of the grill parts: wheels, legs, bezels and so on, would be salvaged), however, the Senior Management Team (SMT) is considering selling all faulty grills to a retailer that specialises in selling sub-quality branded goods. The retailer would buy the defective grills at 50% of our usual retail price, less a B\$30 per item handling fee.

Please prepare a briefing paper for the SMT which explains:

- How the financial statements for the year ended 30 June 2023 will be affected by the faulty charcoal grills. Please make reference to IAS10: Events after the Reporting Period and IAS 2: Inventories.

(sub-task (a) = 48%)

We have orders from retail customers in Geeland for Sparkler and Spinner grills that must be despatched from Beeland tomorrow night. Tomorrow's production schedule has been rearranged but, due to labour and machine shortages in the Assembly and Enamelling departments, respectively, we cannot make enough grills to fulfil the orders. I have produced a linear programming graph depicting the position for tomorrow's production (Graph 1 attached).

Please include in your briefing paper an explanation of:

- How to use Graph 1 to determine the optimum production plan and identify what the optimum production plan is. Assuming we cannot acquire additional resources, also explain one other factor we should consider before proceeding with the optimal production plan.

(sub-task (b) = 32%)

It may be possible to increase the labour hours in the Assembly Department tomorrow, but only if we pay an overtime premium. Please also include in your briefing paper an explanation of:

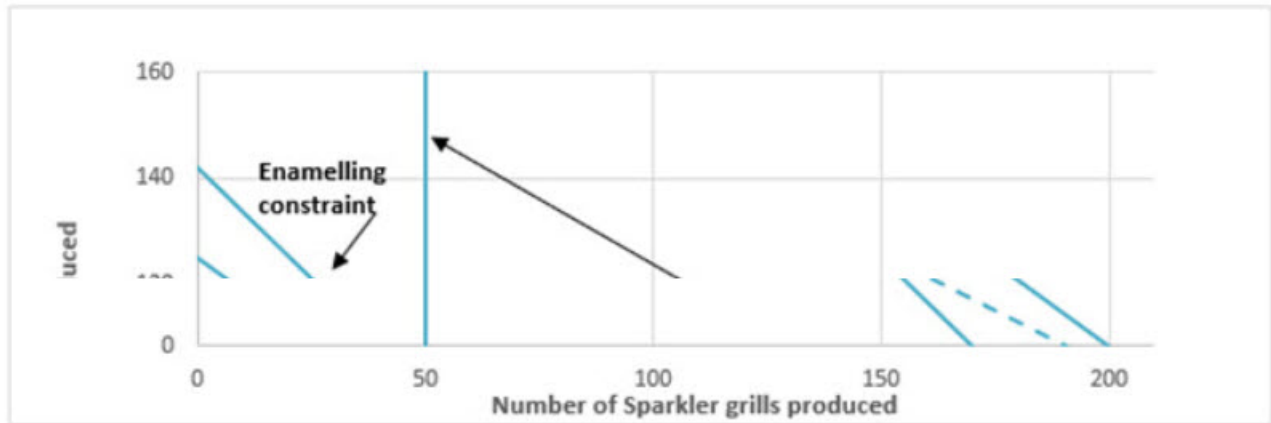
- How we could use the graph to determine how many assembly overtime hours we should pay for and how we could use the assembly hours shadow price to determine the maximum overtime premium per hour we should pay.

(sub-task (c) = 20%)

Savita Sharma
Finance Manager
FireWorks

The attachment to this email can be found by clicking on the Reference Material button above.

Graph 1: Linear programming graph for Spinner and Sparkler grills



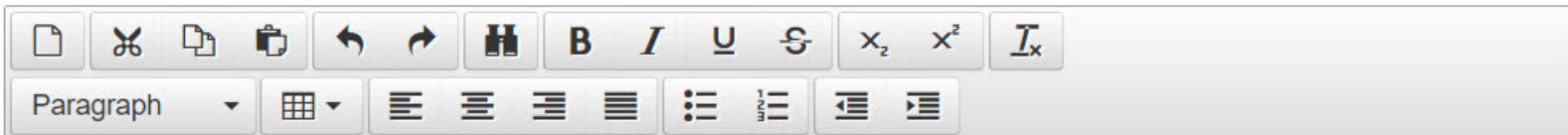
Notes:

1. An important retail customer in Geeland must be supplied with a minimum of 50 Sparkler and 30 Spinner grills.
2. The dotted line is an iso-contribution line.
3. The order due to be dispatched to Geeland retailers is for 200 of each type of grill.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below.



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a table icon, bold (B), italic (I), underline (U), strikethrough (ABC), subscript (x₂), superscript (x²), and subscripted x (I_x). Below these are two rows of alignment and list icons: a paragraph dropdown, a table dropdown, left-align, center-align, right-align, justify-align, bulleted list, numbered list, left indent, and right indent.

Reference Material

Pre-seen

It is now September 2023, and you receive the following email:

From: Savita Sharma, Finance Manager
To: Finance Officer
Subject: Sales variances and increasing receivables

The Geeland variance reports for August and the retail sales variance reports for charcoal grills have raised some issues. The sales managers insist the variances are unfair and do not reflect their true performance. Sales managers in Geeland receive a monthly bonus, based on achieving the budgeted sales volumes. I have attached the variance report we issued last week (Schedule 1). It has been further annotated by the Geeland sales managers.

Please prepare a briefing paper for the Senior Management Team (SMT) that explains:

- What each of the variances in Schedule 1 shows and the reasons why they may have arisen.
(sub-task (a) = 36%)
- One potential advantage and one potential disadvantage of separating the August sales variances into planning and operational elements.
(sub-task (b) = 20%)

Although the credit terms for retailers in Geeland are 30 days, they currently average 72 days. To date, we have managed the Geeland credit control function from Beeland, but the Credit Control Department is under severe pressure with the increased workload. Originally, we expected the sales managers in Geeland to help monitor customer accounts and request payment during sales visits. This has not happened at all, and Geeland customers ignore email requests for on-time payment from our Credit Control Department. To help improve the situation, we are now considering either using a factoring company or offering a prompt payment discount.

Please include in the briefing paper an explanation of:

- The potential benefits and drawbacks of (i) using a Geeland factoring company and (ii) retaining the credit control function in Beeland and offering a prompt payment discount, to the retail customers in Geeland. Please also suggest which option is the most suitable.
(sub-task (c) = 44%)

Savita Sharma
Finance Manager
FireWorks

The attachment to this email can be found by clicking on the Reference Material button above.

Schedule 1: Geeland retail customer charcoal grill variance report for August 2023

Variance	Grill type			Total B\$
	Spinner B\$	Rocket B\$	Sparkler B\$	
Sales price	3,020F	16,060A	1,450F	11,590A
Sales volume profit	6,384A	13,760F	9,000A	1,624A
Sales mix profit				7,420F
Sales quantity profit				9,044A

Supporting information and notes for the variances:

	Grill type			Total
	Spinner	Rocket	Sparkler	
	Units	Units	Units	Units
Budgeted sales volume	350	1,300	1,700	3,350
Actual sales in budgeted mix	336	1,246	1,630	3,212
Actual sales volume	302	1,460	1,450	3,212
	B\$	B\$	B\$	
Standard profit per grill	133	86	36	

- The sales mix profit and sales quantity profit variances have been calculated using the individual units method.
- During August, a company-wide discount on Rocket grills was offered to all retailers.
- The standard selling prices include an allowance for introductory discounts for new customers.

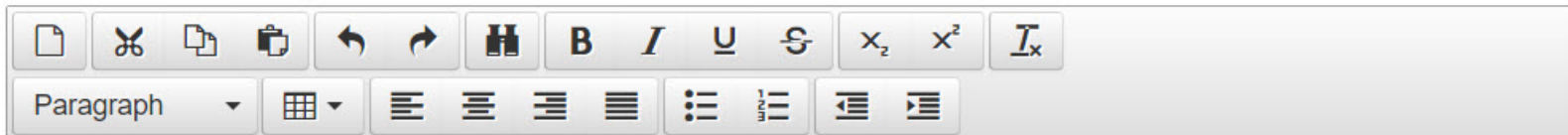
Sales managers' annotations

1. Deliveries from Beeland have been unreliable, and we have had stock-outs on some items. In August, we had to cancel an order from a customer for 300 Sparkler grills because they did not arrive from Beeland.
2. The SMT prevented us from giving new customers introductory discounts at the start of August. As a result, we did not secure their business.

Reference Material

Pre-seen

Write the briefing paper requested by Savita Sharma in the box below:



A rich text editor toolbar with the following icons from left to right: a document icon, a scissors icon, a copy icon, a paste icon, a left arrow, a right arrow, a link icon, a bold icon (B), an italic icon (I), an underline icon (U), a strikethrough icon (ABC), a subscript icon (x₂), a superscript icon (x²), and a text color icon (I_x). Below these are two rows of alignment and list icons: the first row contains a paragraph dropdown, a table icon, and four text alignment icons (left, center, right, justified); the second row contains two list icons (bulleted and numbered) and two indent icons (left and right).



Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.

OPERATIONAL CASE STUDY

NOVEMBER 2022 & FEBRUARY 2023

EXAM ANSWERS

Variant 1

These answers have been provided by CIMA for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Variations for the Enamelling Department for November 2022

Raw material variances

The raw material price variance is B\$20,640 adverse, which means that in November, the actual price of frit per kilogram was higher than our standard price. A new type of frit was used in production from 1 November, and therefore the price of this new type of frit must have been higher than our standard price. Given that the new type of frit requires a thinner application and less firing time, it would appear that this frit is perhaps better quality, hence the increase in its purchase price.

The raw material usage variance is B\$15,480 favourable, which means that we used less frit than we should have based on our standard to enamel the grills during the month. The new type of frit requires a thinner application, and therefore it makes sense that during the month we have had to use less frit than we expected based on our standard. In addition, we expect that there will be less wastage with this frit. The KPI dashboard indicates that this appears to be the case in weeks 2, 3 and 4, as each of these weeks the percentage of frit wastage is lower than our target of 10%. It's possible that the higher than target wastage in week 1 was a result of our skilled employees getting used to spraying the new frit. Overall though, there does appear to be less wastage of frit than the target, and this will have contributed towards the favourable usage variance.

Direct labour variances

The direct labour rate variance is B\$3,900 favourable, which means that on average we paid less per hour for our direct labour than we expected to, based on our standard. To increase the workforce, new trainees were taken on in the middle of November.

The favourable variance is therefore a reflection that these trainees will have been paid a lower hourly rate than the skilled employees in the department.

The direct labour idle time variance is B\$4,000 adverse, which means that we paid our direct employees for hours where they were not being productive. The KPI dashboard for the Enamelling Department gives us the reasons for this. 60% of the idle time was as a result of training, which presumably relates to training the new trainees that were taken on during the month. Part of this idle time will be the trainees themselves watching, and the rest will be in respect of our other direct employees perhaps having to supervise the trainees as they undertake loading and unloading of the furnace. The other 40% of idle time relates to either equipment or production issues, which possibly arose because of the pressures from the additional production required in the month. It should be noted that machinery faults and waiting for materials are likely to be outside of the control of the Enamelling Department Manager.

The direct labour efficiency variance is B\$1,760 adverse, which means that our direct employees took more productive time than we expected them to, based on our standard, to complete the enamelling. There are two reasons for this variance. Firstly, there were new trainees employed during the month, and these trainees will likely have worked at a slower rate than our other employees. Secondly, we know that the new type of frit used in the month takes longer to spray, which will have increased direct labour hours per grill above standard.

Variable overhead variances

The variable overhead expenditure variance is B\$344 favourable, which means that we spent slightly less on variable production overhead than we should have for the furnace hours worked. There are two contrasting reasons for this. Firstly, we paid a higher level of overtime premium than we expected to because of the higher than anticipated production volumes in the month, which created an adverse variance. Secondly, as shown in the KPI dashboard, the level of self-generated electricity used in production was higher than expected in the second part of the month. Presumably, the new wind turbine generated more power than expected. Given that self-generated power is cheaper than bought in power, this will have resulted in a favourable variance. Overall, the impact of the less expensive power has outweighed the higher level of overtime premium.

The variable overhead efficiency variance is B\$7,344 favourable, which means that it took fewer furnace hours than standard to fire the enamel on the grills. This is another impact of using the new type of frit in production because it was expected that this frit would require less firing time.

New type of frit

Overall, the raw material cost variance is adverse, which on the face of it might suggest that the higher cost of the new type of frit is not worth paying. However, the new type of frit has also affected the labour and variable overhead variances as discussed above.

When we consider the variable overhead efficiency variance alongside the raw material variances, it would appear that, overall, the use of the new type of frit has resulted in a favourable variance (the adverse raw material price variance of B\$20,640 is more than compensated for by the favourable raw material usage variance of B\$15,480 and the favourable variable overhead efficiency variance of B\$7,344). To have a complete picture, we do need to also include the impact of the adverse labour efficiency variance, but as this will only be a portion of B\$1,760, it would still appear that the impact is an overall favourable variance. Assuming that the trial is deemed a success and the new type of frit continues to be used in production, it would be advisable to update the standards to ensure that future variances fairly reflect the performance of the Enamelling Department.

Key performance indicators for new college

Trainee attendance rate each week: In order to be successful in the examination at the end of the course, it will be important that our trainees have attended the course. The attendance rate will be measured as a number of trainees attending each session as a proportion of the total number of trainees expected to attend, information that we can obtain from the college. Monitoring the attendance rate of our trainees each week will alert us that maybe our trainees are not satisfied with the quality of tuition or are not engaged with the course. Clearly, illness may prevent some trainees from attending, but any downward trend in the level of attendance will be a concern. Reviewing each week will allow us to take action, if necessary, to speak to the trainee and to feedback to the college tutors.

Examination pass rate: The main objective of the external college is to provide formal classroom tuition to enable our trainees to pass the examination at the end of the course. Therefore, an important metric of how well the college has performed in 2023 will be the success rate of our trainees in that exam, measured as the number of trainees passing the exam as a proportion of the total number of trainees taking the exam. A low pass rate, compared to the national average for this examination, might indicate that the quality of tuition was not good or that the college failed to engage our trainees whilst on the course. Although we won't be able to assess this until the end of the course, we could also monitor trainee progress through any intermediate tests that they take.

SECTION 2

Linear programming graph

Feasible region and optimal production plan

The feasible region is the area of the graph which includes all of the possible combinations of Rocket and Wheel grills which can be made, given the furnace hours and frit production constraints and the size of the orders.

Lines A and B on the graph represent the different combinations of production of Rocket and Wheel grills which utilise all of the available resources for furnace hours and frit, respectively. These lines, therefore, represent the maximum that can be produced and form a boundary for the feasible region which will be to the left of these lines. It is impossible to produce above these lines.

Lines C and D on the graph are the demand constraints and represent the total number of grills required to satisfy each order. Line C relates to the Rocket grill and line D relates to the Wheel grill. The feasible region will be to the left of line C and underneath line D. The feasible region is the area of the graph which starts at the origin and is contained by lines D, A, B and C.

The optimal production plan, based only on financial considerations, can be found by moving the iso-contribution line (the dotted line which represents the relative contributions of each type of grill) until it reaches the furthest point from the origin that is still within the feasible region: this is where lines A and D intersect. Therefore, the optimal production plan is to produce around 220 Rocket and exactly 200 Wheel grills. The binding constraint at this point will be furnace hours.

Factors to consider

The optimal solution allows both orders to be fully satisfied for Wheel grills, but because only 220 Rocket can be produced, we would need to decide which customer to send these to. Customer 1 has asked for 200 Rocket, and therefore we could fully satisfy this order with 20 sent to Customer 2: satisfying one order in full but leaving the other short. Alternatively, we could send each customer 110 which leaves both orders unsatisfied but might be fairer on Customer 2.

We should also consider what the two customers might prefer. It's possible that they would prefer to receive all of the Rocket rather than all of the Wheel; in which case, we would need to amend the production plan. Satisfying the full demand from these customers for Rocket grills would mean that we would not optimise profit in the period, but we should consider the benefits of future orders.

The optimal solution is based on maximising profits based on the constraints and takes a short-term view of the decision. We expect both customers to provide further orders in the future, and therefore it might be better to ensure that these orders are both fully satisfied at this stage. Maybe we could delay some of our production for existing customers or for website sale inventory. We would need to weigh up the cost of doing

this in terms of lost sales from existing customers against the additional contribution from the orders by being able to fully satisfy them, but also the potential for increased sales and contribution in the future.

We should also consider if it is possible to obtain more resources and therefore relax the constraints. Based on the optimal solution, furnace hours are the binding production constraint. It might be possible to increase furnace running time with an additional night-time shift, although we would need to consider the shadow price of each additional hour (that is the additional contribution gained from each hour) against the cost of doing this. In any event, if we were not able to source any additional frit at the appropriate quality (which is possible as we only use one supplier), creating more furnace hours will only allow us to increase production by around 40 Rocket grills.

CGMA cost transformation model

Engendering a cost-conscious culture

This part of the model suggests that everyone involved within the business, from directors to the newest trainees, should be conscious of all of the costs being incurred when producing our grills. Within the Enamelling Department, this will involve George Crystal, Head of Enamelling, down to the trainees taken on late last year. There should be an understanding within the business that actions sometimes lead to unnecessary costs. For example, poorly applied frit leading to poor quality enamelling and potential damage to the reputation of FireWorks, if this is not identified internally through quality checking.

In our Enamelling Department, George Crystal holds a weekly meeting in which all employees are informed about the performance and are encouraged to participate and share ideas. Sharing information about frit wastage, throughput and idle time will create a cost-conscious culture, as employees are likely to strive to hit and exceed targets in these areas, which ultimately reduces cost. This could be further extended by setting up specific working groups or quality circles to look at different areas for cost control.

Managing the risks inherent in driving cost-competitiveness

For this part of the model, we need to consider and then manage any risks associated with cost reduction. For example, we could reduce costs by changing to a cheaper supplier for frit or choosing to have a policy of using multiple suppliers of frit so that we can obtain the best prices available at the time. However, the risk with these approaches is that we end up with lower quality frit and therefore potentially issues with the enamel on our grills.

Ultimately, we need to balance any cost reductions with considerations of quality. For the Enamelling Department, we have deliberately chosen a policy of using a single supplier of frit to safeguard quality. If we were to use lower quality frit or frit that differs in quality because it is from different suppliers, this could lead to poor quality enamel on our grill. This may not lead to an internal quality failure straight away but could lead to external quality failures after the use of the grills by our customers. This sort of

external failure could be hugely costly to our business if it results in a loss of reputation and a reduction in future sales.

Incorporating sustainability to optimise profits

This part of the model is about embracing environmental concerns to ensure that we operate in a sustainable way because this helps to reduce cost (in terms of waste) and also potentially gives a competitive advantage. Part of FireWorks' ethos is to be as sustainable as possible, and we have an aim to be carbon neutral and as far as possible to sustainably source our raw materials.

Within the Enamelling Department, there are examples where our overall ethos on sustainability is being embraced. Whilst our furnace is a heavy user of energy, much of the energy used comes from our own wind turbine which was installed last year. The department monitors the usage of energy through key performance indicators. In addition, our frit supplier is located close to our Production Facility, reducing the impact of delivery on the environment. The introduction of a new type of frit late last year is another example. Whilst this costs more per kilogram, wastage is significantly reduced as well as production time, resulting in environmental savings.

SECTION 3

Activity based budgeting for Enamelling Stores employee costs

Activity based budgeting (ABB) is an approach where a budget is created by first considering the activities which drive the cost. In this case, these are the activities which drive Enamelling Stores' employee costs. The two activities suggested by Tony Cook in Table 1 are moving raw materials into stores and moving raw materials into production, although there will be other activities as well.

Having established the activities, the next step is to consider each activity separately and to determine the employee time that we expect to need for each of these activities for the year ending 30 June 2024. For each activity, we need to determine the factor that drives the cost (the cost driver) and the time taken to complete a cost driver.

To illustrate, for each of the activities identified in Table 1, this will be done as follows:

- For moving raw materials into stores, we need to consider frit and consumables separately. For frit, the process is straightforward in that each pallet received will need to be moved by forklift into the correct location. Each time this is done, employee time will be used to operate the forklift. Therefore, we can establish the total time needed to move frit pallets as the number of pallets to be moved in the year (pallet moving being the cost driver) multiplied by the time taken to move a pallet. As each pallet contains the same amount of frit and the process is identical for each, then it will be the same time for each pallet. However, moving pallets of consumables into stores is a more complex process, because it involves moving the pallet to multiple locations and then manually unloading each type of consumable into the correct location. If each pallet usually contains the same proportion of each of the four types of consumables, then we could use a number of pallets as our cost driver here. If this was the case, each pallet would take the same amount of time to move and unload and hence the total hours required would be the number of consumables pallets multiplied by time taken per pallet (which will be considerably longer than for frit pallets). However, if consumables pallets vary significantly, then we may wish to break this down by type of consumable on a per box basis and use the number of boxes as the cost driver. However, there are difficulties in doing this as multiple boxes of different types of consumables are being moved at the same time.
- For moving raw materials into production, each delivery into production contains all of the frit and consumables required for a batch of 50 grills of a particular model. Therefore, the number of batches of each type of grill will be the cost driver. Because the amount of frit and consumables per production batch will differ depending on the grill model, we will need to establish the time taken to pick and then deliver a batch for each model. The total time required will be the sum of the number of batches of each type of model multiplied by the time taken per batch per model.

The next step is to accumulate all the hours required for all of the activities undertaken in the Enamelling stores (including the two explained above) into a total number of hours required for the year. We might also want to factor in an allowance for idle time. The final total can then be used to establish how many employees are required based on the number of hours each employee would be available for work during the year. This would need to include any hours needed for training and allowances for sickness and employee holidays. The final step would be to quantify this as a cost by applying the appropriate hourly rate for the employees required (which should include any social security or pension costs borne by the company in respect of these employees).

Benefits and difficulties of using ABB

Benefits

A benefit of using ABB for the operating cost budget for the Enamelling Stores is that it will mean that the budget is based on a detailed analysis of the activities that have to happen. An ABB approach identifies the amount of resource required to complete the activities (two of the activities being moving raw materials into stores and moving raw materials into production). This will help to reduce the chance of the budget for this new operation containing inefficiencies or budget slack.

Another benefit is that ABB, because of the detailed focus on activities, helps us with cost control. By looking in detail at the activities involved in all aspects of the Enamelling Stores, we may identify opportunities to streamline those activities and possibly even eliminate some activities. For example, we could consider ordering our consumables in larger batches and receiving a single type of consumable on a single pallet. This would save considerable time moving to different locations in the stores and having to upload boxes from mixed pallets.

Difficulties

A difficulty associated with using ABB to establish the operating cost budget of the Enamelling Stores is that this is a new operation, and therefore it may be difficult at this stage to establish, for example, the time taken to move a frit pallet or to deliver a batch of raw materials into production. This is because the new stores are not due to be operational until July 2023 and therefore presumably distances and time will currently be difficult to judge as the final layout of the stores is probably still to be determined.

Another difficulty is with the level of detail to use to analyse the activities. As noted above, if consumables pallets vary in terms of the consumables included, then we might consider looking at the unloading of consumables at a very granular level. It could therefore a long time to make the calculations and to establish the hours. Ultimately though, the benefit of doing this is maybe outweighed by the additional cost. Instead, it might be more sensible to assume the average pallet contents and establish a time per pallet on that basis.

Economic Order Quantity (EOQ) model

The information required to calculate EOQ

To calculate the EOQ, we will need to establish for each type of frit and consumable:

- Annual demand, which will be based on the expected level of grill production in a year.
- The cost of placing an order for each type of frit and consumable. This will include the cost of the time taken by the Purchasing Department, internal administrative costs and any goods in delivery costs charged by the supplier.
- The cost of holding one unit of inventory for one year. Holding costs will include insurance, storage costs (such as energy used in the stores, employee training costs for safe handling, handling employee time) and the finance cost associated with the investment in working capital.

The EOQ model assumptions

One assumption of the model is that it assumes that annual demand for each type of frit and consumable is constant throughout the year and can be determined with a reasonable level of certainty. In reality, despite the fact that our sales are seasonal, we do aim for a steady level of production throughout the year, therefore our demand is likely to be reasonably constant. However, what might be more difficult is knowing a year ahead what the level of demand will be, as this will depend on the accuracy of our sales forecasts and production schedules.

Another assumption of the model is that lead time from suppliers is constant or zero. We source our frit from a single supplier and our consumables from a single supplier, therefore it is likely that we will be able to easily determine our lead times and that these will be reasonably constant. A constant lead time can be incorporated into the model by establishing a re-order level point, that is the level of inventory at which the order will be made.

SECTION 4

New furnace

Initially recorded

The new furnace will be recognised and classified as a tangible non-current asset in accordance with IAS 16: Property, Plant and Equipment. This is because it is probable that future economic benefit will flow into our business and because the asset can be reliably measured. The furnace is also tangible in nature, and we expect to use it for more than 12 months.

The amount that the furnace is initially measured at will be its purchase price (B\$1,000,000 + B\$150,000) plus any expenditure which is directly attributable to bringing the asset to its location and condition necessary for it to be ready for its intended use. This will therefore include all of the installation fees (B\$10,000 + B\$5,000) because the installation has to occur before the furnace can be used. The B\$1,000 of the safety inspection certificate can also be included in the initial measurement of the furnace asset because this is legally required before we can use it.

Impact on reported profit

The new furnace asset will need to be depreciated over its useful life from the date that it is available for use, which will be 1 June 2023, rather than the date of initial purchase. Therefore, for the year ending 30 June 2023, 1 month of depreciation on this asset will be recorded in the statement of profit or loss. This will reduce reported profit for the year.

Where an asset has elements that have different useful lives, IAS 16 states that the initial carrying amount of the asset should be split into its elements and depreciated separately. The main part of our furnace has a useful life of 20 years; however, the lining has a useful life of 5 years. Therefore, we need to establish how much of the total cost of the furnace relates to the lining (B\$150,000 + B\$5,000 + the share of the safety certificate cost that relates to the lining) and treat this as a separate asset depreciated over 5 years. The remaining cost will be depreciated over 15 years.

Assuming we use the straight line method of depreciation, the charge for the year ending 30 June 2023 will be calculated for each element of the furnace asset as cost less any residual value divided by the useful life multiplied by 1/12.

Old furnace

Classified

We are planning to sell our old furnace, and therefore we need to consider whether, at 30 June 2023, we should reclassify it as an asset held for sale in accordance with IFRS5: Non-current Assets Held for Sale and Discontinued Operations. For this to happen, an asset needs to be available for immediate sale in its present condition and

its sale must be highly probable. A sale is highly probable when: management is committed to sell the asset; there is an active programme to find a buyer; the asset is marketed at a reasonable price; the sale is expected to take place within 12 months; and it is unlikely that the plan to sell the asset will change.

In this case, the old furnace does not meet the criteria of being available for sale in its current condition because we need to repair it before it can be advertised for sale. Therefore, the old furnace will continue to be classified as part of property, plant and equipment on 30 June 2023, as the repair works will not happen until after this point.

Measurement of the old furnace

The old furnace will continue to be recorded in the statement of financial position as part of property, plant and equipment at cost less accumulated depreciation and impairment losses. The carrying amount of the asset on 1 July 2022 is B\$220,000, and we will need to deduct depreciation from this. The depreciation charge for the year ending 30 June 2023 will be B\$3,000 x 12 months. Note that depreciation does not cease just because we will stop using the furnace on 1 June 2023.

The fact that the old furnace needs to be reconditioned is indicative of an impairment in the non-current asset. The recoverable amount of the old furnace will be the higher of its value in use (which given that we will no longer use the furnace in production is likely to be very small) and its realisable value (which is future sales proceeds of B\$100,000 less B\$25,000 of recondition works less any selling costs (which are currently unknown)).

Under IAS 36: Impairment of Assets, where an asset's carrying amount exceeds its recoverable value, an impairment loss should be recorded as an expense in the statement of profit or loss. For the old furnace, it would appear that its recoverable amount (B\$100,000 – B\$25,000 – selling cost) will be lower than its carrying amount (which is B\$220,000 – B\$3,000 x 12). Therefore, this difference will be charged to profit for the year and the old furnace will be recorded in the statement of financial position within property, plant and equipment at a recoverable amount.

Decision tree

How we should use the decision tree

The decision tree shows that there are two decisions to be made: whether to use Supplier 1 or Supplier 2 and whether Supplier 1, Contract 1 or Contract 2 should be chosen. The decisions are represented by the squares on the tree.

To make the decisions using the decision tree, we start with the decision at point D about whether to take Contract 1 or Contract 2. The expected value of cost at point A is B\$30,240 (Contract 1), and the expected value of cost at point B is B\$42,000 (Contract 2). However, in order to compare like for like, we need to include the fixed fee for Contract 1, which will bring its expected value of cost to B\$40,240. Therefore, as we want to maximise profits, we will choose Contract 1 as this has the lowest expected value of cost at point D.

We then consider decision point E. At decision point D, we know that the decision is to choose Contract 1 if we choose Supplier 1. At point E, we need to make the decision whether to use Supplier 1 or Supplier 2. We again compare the expected value of cost for each supplier, which are B\$40,240 for Supplier 1 and B\$39,520 for Supplier 2. Therefore, we would again choose the lowest expected value of cost and hence to maximise profits would choose Supplier 2.

Limitations of using decision tree methodology for this decision

The evaluation of the decision tree is based on the expected values of the three maintenance contracts. The expected values are the weighted averages of the costs for the estimated number of callouts or maintenance hours. The weightings are based on estimated probabilities of those callouts and hours occurring. This is a new furnace and therefore at this stage it is difficult to accurately predict the number of callouts or maintenance hours required. These will depend on our level of production during the year and whether there are any initial difficulties with using the furnace (either down to lack of employee experience or issues with the furnace itself).

Because a decision tree approach uses expected values, there is an assumption that the decision maker is risk neutral and therefore is not interested in the value of each possible outcome. If we instead took a risk-seeking approach, we would choose the option which would give us the lowest cost, regardless of how likely this was to happen. If we were risk-seeking, we would choose Supplier 1 and Contract 2 because this would give us the lowest cost of B\$30,000, even though with this option there is a 40% of having the highest cost.

OPERATIONAL CASE STUDY

NOVEMBER 2022 & FEBRUARY 2023

EXAM ANSWERS

Variant 2

These answers have been provided by CIMA for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Financial evaluation of the three suppliers

Supplier A

Supplier A is a new business and growing fast. It is common for new and expanding businesses to prepare for increased growth by investing in working capital, and this would explain its higher-than-average inventory days, consistent with buying in extra inventory needed to produce additional orders. However, investment in inventory requires additional finance, which is more challenging for a company which already has a negative cash balance.

In addition, its trade payables days are 13 days lower than its receivables days, that is, it is paying its suppliers 13 days before it receives payments from customers, and it will need to fund this difference, which will also put pressure on its cash position. This situation may have arisen because, as a new business without a good credit rating, it has not yet been able to negotiate longer payment terms and has been forced to give customers extended credit terms to win their business.

Overall, Supplier A's working capital position is higher than the industry average, which suggests that it is operating less efficiently than average. Specifically, its growth plans and the mismatch between receivables and payables days will be made more challenging by its negative cash balance and low revenues. Supplier A is therefore vulnerable to overtrading and potential cash flow difficulties. These factors must be weighed against the quality of their products, when deciding whether they would be suitable as a supplier.

Supplier B

Supplier B is larger than average but has a lower cash flow balance and a less robust working capital position than may have been expected when compared to industry

averages. It has a very long working capital cycle, close to double the industry average, and higher than the new and growing, Supplier A. This may be a cause for concern. However, it would be important to find out more about the business to understand the reasons for the different measures.

Its high inventory days may be due to a deliberate policy of carrying high stock levels to give customers more choice or the result of a weak inventory management processes. Equally, its high receivables days (the highest of all three firms at 58) may simply indicate that established customers have negotiated longer credit periods or maybe the result of weak credit control systems. It has short payable days (41) and therefore has to fund its receivables for almost 3 weeks, which may in part explain its low cash balance, but the fact that it pays promptly (and faster than average) suggests overall that it is not struggling financially. It has higher than average revenues and so would appear to have a strong market position.

If the high stock levels and long receivables days are deliberate policy decisions, then Supplier B, with its strong revenues and established contracts, would be a good choice for FireWorks. We would have continuity of supply and long payment periods which would help our cashflow.

However, if they are due to weak systems, then this, combined with its low cash levels, may indicate that Supplier B is starting to struggle financially and would not be able to offer the continuity of service we require. This would have to be weighed against its industry experience when considering its suitability as a supplier. More information will therefore be required before a final decision about Supplier B can be taken.

Supplier C

Supplier C has a very aggressive credit policy, as its payables days are 16 days longer than its receivables days. This is perhaps not surprising as it is part of a global organisation and would be expected to have the back-office support to negotiate long payment periods with its suppliers and to enforce its payment periods on its customers. Its inventory days are also a little shorter than the industry average, which is a sign of efficient inventory control.

It also has high revenues, a strong cash balance and the backing of a global organisation, all of which are likely to improve its stability. It is also likely to be benefitting from economies of scale which would help keep its costs relatively low and so improve profit margins.

However, as a customer of Supplier C, this would not necessarily be a benefit for us. The low inventory days may mean that it would not be able to offer us the choice or lead times we required, and its low receivable days suggests that we would be unable to negotiate a long credit period for ourselves.

So whilst Supplier C would be reliable if appointed to be our supplier, they may not be the most suitable commercial partner.

Expenditure on the machinery

New pressing machine

IAS 16: Property, Plant and Equipment states that the cost of an item of property, plant or equipment is made up of its purchase price (inclusive of duties and non-recoverable taxes) plus the total of any costs that are directly attributable to bringing the asset to the location and condition necessary for its intended use.

Applying this to the new pressing machine, we can therefore capitalise its purchase price of B\$185,000 plus the costs of delivery of B\$1,500, installation of B\$3,000 and calibration and testing of B\$4,000, which must all be incurred to make the machine operable.

The training costs of B\$1,000, however, cannot be capitalised as they do not meet the definition of an asset. Although the training may lead to future economic benefit for our business, we cannot control this, as the staff are free to leave the business at any time.

An asset of B\$185,000 + B\$1,500 + B\$3,000 + B\$4,000 will initially be recorded, and this will be depreciated over its useful life of 15 years from the date that the machine is available for use (even if it isn't used from that date). Since the machine will be available for use by 1 March 2023, depreciation of approximately 4 months will be charged to the statement of profit or loss. The amount reflected in the statement of financial position will be the total cost recorded less this depreciation.

Adaptation of existing machine

IAS 16 normally requires an expenditure on an asset already recognised to be charged to profit or loss as incurred. However, if that expenditure is expected to increase the future economic benefit of the asset in excess of the originally assessed level of performance, then it can be added to the carrying amount of the asset.

In our case, the machine has been adapted and reconditioned, which has extended its useful life by 3 years compared with our original assessment. This has increased the future economic benefit that can be derived from the asset and consequently the subsequent expenditure of B\$5,000 on the asset can be capitalised.

Additional depreciation of $B\$5,000 \times \frac{1}{3} \times \frac{4}{12}$ in respect of this amount will be charged to the statement of profit or loss. The amount reflected in the statement of financial position will be the total cost recorded less this depreciation

Tax payable

When we calculate our taxable profit for the year, we add back the accounting depreciation we had deducted and deduct instead tax depreciation allowances, that is, deductions specifically permitted for tax purposes. Normally our tax depreciation allowances are 25% on a reducing balance basis, but for this asset, first-year

allowances of 100% are available, which means that the full cost of the asset can be deducted in the first year.

The net effect of purchasing the new pressing machine is that it will reduce taxable profit for the year ended 30 June 2023, that is, the tax charge and the amount of tax we will have to pay for this year will be significantly lower than it would have been had we not bought it. This is because the accounting depreciation added back will be a relatively small value $((B\$185,000 + B\$1,500 + B\$3,000 + B\$4,000) \times 1/15 \times 4/12)$ compared to the first year tax depreciation allowance of $B\$185,000 + B\$1,500 + B\$3,000 + B\$4,000$.

The effect of a 100% first-year tax depreciation allowance is that all of the tax benefit is received in the year that the asset is purchased. This means that there will be no allowances available for this asset for the year ended 30 June 2024 and onwards to lower the amount of tax payable.

SECTION 2

Make or Buy decision

The decision

A make or buy (or outsourcing) decision is where management decides whether to make a product internally or buy it from an external market. From a financial perspective, the relevant costs to be considered when making the decision are the incremental costs which result from making or buying-in the products. The incremental costs of buying-in the products will be the purchase price from the supplier. The incremental costs of making the products will normally be the variable costs of production (assuming that fixed costs will remain unchanged whether the products are manufactured internally or purchased externally).

Determining products to make or buy

On first inspection, it may appear that we should buy all of our welded cook-boxes from the supplier, as all the prices quoted are below our total production costs per unit. However, assuming that our fixed production overheads will remain the same whether we make or buy the cook-boxes, we should actually be comparing the quoted prices with our variable production costs per unit.

Comparing these prices shows that the CB100, CB300 and CB400 are more expensive to buy-in than our variable costs per unit. However, since the price for the CB200 is lower, from a financial perspective we should definitely buy-in the CB200 cook-box from the supplier.

We then need to consider how best to use our available welding labour, as we have an overall shortage on the production line. This is not as simple as just considering the difference between the buy-in cost and the incremental cost of in-house production and manufacturing those products with the largest difference. Instead, we need to look at the savings we would make per labour hour if we produced each of the three models in-house. For example, for model CB100 we would calculate the saving per labour hour as the difference between the buy-in cost and the incremental cost of in-house production (B\$47.00 - B\$42.48) divided by the amount of welding labour required to make the unit (in this case 0.36 hour).

The cook-boxes should be ranked based on the savings made per labour hour (with the biggest savings per labour hour ranked highest). We should manufacture cook-boxes in-house in the order of the ranking, until we have no more available welding labour hours. The remaining cook-boxes we need can then be bought in from the external supplier.

An alternative way to perform this calculation is to find the additional cost of buying in per welding hour and rank the options accordingly, with the welding hours allocated to those models with the highest cost per hour of welding to buy in. The actual figures would be the same in either case.

Other factors

Before making a final decision, however, there are other factors that we should consider:

- The reason that the supplier is able to offer a lower price per unit than our full production cost. It may be because it is bigger and has economies of scale or other efficiencies. However, it may be that it is offering a low initial cost and plans to increase costs in the medium term given it will have to cover its costs to make a profit. We do not yet know whether we will later purchase machines to automate the process, and we may be dependent on the supplier for some time, so its long-term pricing plans are an important consideration.
- The quality standards the supplier works too. This is important because our reputation is based on the quality of our products and any failures in the cook-boxes could seriously damage our reputation.
- The general reliability of the supplier in terms of lead times and adherence to agreed delivery schedules, as we will be relying on them for the rest of our production line.
- The extent to which the supplier shares our ethos regarding ethical and sustainable production (including working towards carbon neutrality), as we are working to improve these issues across our supply chain. To be linked with a company which fails to meet high standards in these areas would be detrimental to our business.
- The financial stability of the supplier, as we will be reliant upon a steady stream of inventory which would be threatened if the supplier was no longer a going concern.
- The location of the supplier. For example, using an overseas supplier could expose us to currency fluctuations depending on the currency used in the purchase agreement.

Activity based costing (ABC)

How an ABC approach would change the way production overheads are absorbed

If we were to use ABC, there would be several differences to the approach we take now. We would look at our overhead costs in a lot more detail by breaking them down into the different activities carried out during the overall process.

In the Assembly Department, the current absorption rate is based on direct labour hours. This assumes that all overhead costs of the department assembling the grills are related to the time that they take to put together. However, this assumption does not take account of what actually causes the cost to be incurred at different parts of each process.

There appears to be four major parts to the work done by support staff in the mechanical assembly process: selecting and loading the bins of components, moving the bins to production, creating component trays and stacking the grills for transfer to

the technical assembly team. It is clear that not all of these activities relate to the time it takes to assemble the grills. For example, stacking a grill on a pallet will take the same time regardless of how long it took to assemble.

To implement ABC, we need to need to identify the activities within each part of the process and then identify what it is that causes costs to be incurred (cost drivers). Costs that have the same cost driver can be grouped into the same cost pool.

Selecting and loading: Bins are transferred onto forklifts before being moved. Each bin needs to be loaded and therefore the cost of loading the bins would have a cost driver of the 'number of bins loaded'.

Moving: The cost driver for physically moving the bins to the production floor would be determined by the number of bins that are moved together (which will presumably relate to the size of the forklift used). If all the bins needed for a batch can be moved together, then 'number of batches' could be the cost driver. However if, for example, only 6 bins can be moved in one go, then batches requiring 24 bins of components would require four journeys whilst those requiring only 6 would need only one, so the driver might be 'number of movements'.

Stacking: There is just one activity here and the cost of stacking would presumably depend on the number of grills assembled for loading onto the pallet, so the driver would be 'per grill assembled'.

Component trays: the single activity here is gathering the components together onto a tray. The trays are put together one grill at a time so an appropriate basis could be 'number of grills assembled'. However, if the cost is affected by the number of components to be gathered together then an alternative driver may be 'number of components handled' or 'time spent compiling trays'.

If component trays and stacking costs were both based on the number of grills, we would then set up a cost pool that includes the costs of compiling the component trays and costs of stacking the pallets. All of the costs in the cost pool would then have the driver of 'number of grills assembled' because they are all incurred on a grill-by-grill basis. If the time spent preparing the component trays is considered to be the most appropriate cost driver for the trays, then the associated costs could be absorbed using direct labour hours. This is no different from our current absorption method except that the costs will be limited to the specific costs incurred in preparing the trays.

Potential benefits for cost control

Understanding each separate element of cost within the different production departments and then establishing what drives each element will help management identify where cost savings can be made by controlling the cost driver.

For example, it would emphasise the extent to which costs were being impacted by the number of different components used in each grill, and this may lead us to review our product design to reduce the components required in each of the different models.

Alternatively, it may indicate that the cost of transporting the component bins to the factory is heavily impacted by the number of movements, which may lead to more efficient packing of the forklifts so they can carry more bins, or to the purchase of a larger fork-lift that can carry more at one time.

Using ABC will also provide a more relevant basis for subsequent variance analysis, and so help us to direct our attention more accurately to those areas requiring attention.

SECTION 3

Decision about checking inventory

Expected values

The expected value of each decision, either to check and rectify the inventory or not to investigate, is the sum of the weighted costs of the different possible outcomes, where the weighting is the probability of each outcome occurring. To determine whether or not to check the inventory using expected values, we need to compare the expected cost of both options and select the one that gives us the lower figure. In this case, the lower cost is the option not to investigate as this is B\$58,600 compared to B\$61,100 (B\$55,000 + B\$6,100) to investigate.

Limitations of using this information to make the decision

The expected value is not the most likely result of the decision, rather, it is the long run average outcome if the same event was to be repeated over and over. Although an error with welding has occurred before it is unlikely to be considered a recurring event and the cost of the decision may be significantly different from the weighted average figure.

The expected value alone does not indicate the range of possible outcomes. When using expected values, there is an assumption that the decision maker is risk neutral and therefore is not interested in this range of outcomes. However, in practice, we are likely to take a more risk averse approach and wish to limit the downside risk we face.

The costs associated with rectifying errors, is the B\$55,000 cost of investigating, plus rectification costs ranging from B\$500 to B\$25,000. However, the cost of not checking ranges from B\$8,000 to B\$150,000. So, although the expected values for both options are very close, the range of outcomes from each decision is very wide.

It should also be borne in mind that the probabilities used in the calculation of the expected value for each option are subjective and may be inaccurate – they are estimates compiled based on a previous event which may not accurately reflect the current situation.

Therefore whilst the information contained in the tables provides a useful starting point for making the decision, it does not provide conclusive evidence of the correct choice.

Furthermore, the information provided is based upon costs that we can quantify financially, but there are other critical factors that we need to consider such as the impact on our business of customer dissatisfaction and the resulting damage to the FireWorks brand, if we sell grills that turn out to have defective cook-boxes. Given the limitations of the model and such a small overall difference in expected value, it may be a more commercial decision to carry out the checks and protect our reputation.

Key performance indicators

Three KPIs that could be used to assess the performance of the new FCB cook-boxes supplier are as follows:

Defect rate: Percentage of items found to be faulty. We have already had problems with our FCB cook-boxes although, luckily, they were discovered whilst the grills were being assembled, which gives us the option of checking them to avoid any damage to our reputation. This suggests that the welding performed on the smaller grills is a more complex task than on bigger grills, and we will need to be certain that the supplier can produce cook-boxes of the quality we need. Our brand has a reputation for quality, and we need to ensure it is not tarnished by collapsing grills. The defect rate identified before products are despatched to customers represents a form of quality assurance and an appraisal cost which we will have to accept to be sure of the quality of the cook-boxes we use.

Adherence to lead times between order and delivery: We will be ordering cook-boxes weekly, which suggests we won't be carrying high levels of inventory, so any delay could hinder our production process. Although we could decide to carry buffer inventory to protect against this, it is an expensive decision, as it will mean tying funds up in working capital. This means that we will need to be able to rely on the suppliers to process and respond to our orders quickly and reliably and keep to the lead times agreed in the contract.

Percentage of cook-box packaging which is sustainable/recyclable: Sustainability is a key concern for us, and we expect this value to be present in the suppliers we use. This is important not just because it is part of our ethos, but also because it allows us to market our products as being made sustainably. We would therefore expect the supplier to use sustainably produced and/or recyclable packaging for the cook-boxes and, if they cannot yet achieve it for 100% of the packaging, to be constantly working to improve the percentage.

Feedback and feedforward control

How the approaches differ

Our current feedback control system involves monitoring performance, and then, at the end of each budget period, comparing what actually happened with what we expected to happen based on the standards in our budget. We can then take corrective action to rectify any problems and control costs. For example, the large adverse materials variance in the assembly department, led to the discovery of the welding fault and eventually to the decision to use an external supplier in the future.

By contrast, a feedforward control approach would involve comparing what we were expecting to happen based on our original budgeted figures with what we now expect to happen based on forecasts produced using the most recent information. This system would allow us to take action at a much earlier stage.

For example, if the materials used for the period in the assembly department was regularly forecast based on usage so far, the potential for an adverse usage variance would have been highlighted before the period ended. This would have allowed us to investigate the welding fault before an entire month's production had been completed. We could then have improved training in the welding department or moved to an external supplier earlier.

Benefits to our business of using a feedforward control approach

As discussed above, the main benefit to our business of a feedforward system is the speed with which we can take corrective action. This should help maintain quality (avoiding ongoing production problems as happened here) and control costs (because, for example, we should not have to scrap so many completed items).

This system will also help us to identify any future constraint issues. If sales of the new FTG range grow as hoped, we will need to ensure that production can keep up with demand. Forecasting likely demand and associated production levels on an ongoing basis will help us direct our resources appropriately.

Additionally, feedforward controls can be used for cash management, forecasting likely spending and income so that management can plan to finance potential cash shortfalls or invest in short-term surpluses. This will be important as the line expands, and we need to increase our level of investment in working capital.

SECTION 4

Sales variances

Sales price variance

The situation at FireWorks regarding sales price variances varies by customer category.

The large retail customers (department stores) shows only a B\$45 adverse variance. This means that overall actual sales prices received for the items we sold were only slightly lower than budgeted. It is common for large regular customers to negotiate and agree on prices in advance, and it is therefore not surprising that there is little variance between actual and budgeted figures. The B\$45 could be caused by a simple rounding difference on an invoice.

However, the prices achieved for the other categories of customers show larger adverse variances, which means that the average selling prices to those customers were lower than budgeted. This is not surprising as it fits with the two policies introduced early in the period. Toni Trills deliberately reduced prices on the website sales, and Ben Middleton allowed sales staff to use their discretion to offer discounts to small retailers, which presumably they have done.

Sales mix variance

The sales mix profit variance measures the impact on our profits of the proportion of our sales which were made to each type of customer compared with the proportion that was expected. We have sold proportionately more to our website and small retail customers than expected, resulting in favourable mix variances for each of those categories and proportionately less to the five large retail customers resulting in an adverse variance.

Again, this can be explained by the policy decisions taken, as there has been a change in the proportion of the sales made to the different customer groups. There has been an increase in the number of sales made via our website (which can be linked to the lower promotional prices offered by Toni Trills). Additionally, the discretionary discounts to small retailers authorised by Ben Middleton appear to have led to an increase in sales to them (the number of such customers stocking the range rose from 74 to 97 over the three-month period). However, whilst the sales to these groups have increased, the number of large retail customers remained unchanged, so that proportionately we sold fewer items to those customers, leading to a sales mix variance. The overall sales mix variance is favourable, which reflects the fact that relatively we sold more to higher margin customers (website sales earn a 57% profit margin and small retailers a 46% margin) and less to the lower margin large retailers (39% profit margin).

Sales quantity variance

The sales quantity profit variance compares budgeted sales with the actual sales at the budgeted mix and considers the impact on profit. The sales quantity variances are favourable across the board, and the total variance of B\$39,310 is favourable. This total indicates that the overall impact on gross profit of selling more units of the product in the standard mix over the period 1 April to 30 June 2023 is an increase of B\$39,310.

Overall success

Taken together, the policies Seb Roft-Shar mentions have been successful in achieving his goal, which was to improve profits. The negative impact on profits from reducing prices to website customers and new small retail customers (a B\$35,085 fall) is more than compensated by the impact of increasing sales volumes and changing the proportion of sales to higher margin customers (B\$21,500 + B\$39,310). It should be noted though that the promotion is only temporary. Once we stop the offer, customers may no longer be attracted in the same numbers, but offering permanent discounts to attract customers may not be in keeping with our market image.

One other issue must be considered. Combining the sales mix and sales quantity variance for a customer group gives the sales volume variance which measures the impact of changed overall sales volumes to the customers. The sales mix variance for large retailers is adverse and much higher than the corresponding sales quantity variance. This means that overall the sales volume variance for large retailers would be adverse, that is, the actual quantity of grills sold to large retailers was lower than budgeted. This group is made up of long-standing FireWorks customers, and if we are increasing sales online and via small retailers by attracting business away from them, this will not be good for our business relationship. It would therefore be helpful to look in detail at the sales to each customer to understand which of them have not bought the quantity expected, the extent to which the reduction has been a direct result of the policies introduced by Seb and whether they have any concerns about the long-term viability of stocking the FTG range.

Responsibility accounting

The features of a responsibility accounting system

A responsibility accounting system is one in which managers are held responsible for achieving the targets set. Each manager will be assigned specific targets related to their sphere of operations. For example, Toni Trills, Head of Website Sales, may be given targets for the number of grills to be sold via the FireWorks website or the overall revenue to be earned from web sales during a given period. Their actual performance is then compared with this target, and they will be held responsible for any variance between the two. Some systems link to pay and rewards to achieving (or exceeding) specific targets. The expectation is that this will incentivise managers to take action, if they believe performance is likely to fall below the target, to bring it back on track.

However, this system can only work if the manager can control the factors which will affect the target. Such factors include internal matters such as prices charged and external matters such as the competitive environment. For example, Toni is able to influence web prices for the grills (by offering promotional deals), so it is reasonable to hold her responsible for the revenue earned on the units sold. However, if a competitor was to bring out a new range in direct competition to one sold by FireWorks, it would be unreasonable to hold her responsible for failing to achieve a sales volume target that had been set before the range was launched.

An important component of introducing responsibility accounting would therefore be the use of planning and operational variances, in which the impact of uncontrollable factors is measured separately. For example, if, after setting the original budget, unexpected competitor action does mean the achievable sales levels are lower than originally anticipated, a revised budget would be created and the difference between the original and the revised budget would be treated as a planning variance. Toni would then only be held accountable for the operational variance – the difference between the revised budget and the actual figures achieved.

Another key issue affecting the success of responsibility accounting systems is the extent to which managers are able to influence the level at which the original targets are set. This relates to their level of participation.

Participation

A discussion about participation in the budget setting is concerned with the extent to which managers should be able to influence the setting of the targets they are expected to achieve and the budgets on which those targets are based. Where budgets and targets are set by senior management without the participation of the individual managers, it is described as a top-down approach, and this appears to be the current system in place at FireWorks. Where managers are involved in the process, it is described as a bottom-up approach, and there are several advantages of adopting this method of budget and target setting.

Firstly, it will go some way to addressing the concerns expressed by the SMT about the accuracy of the budgets set. FireWorks carries inventory in warehouses which is used to fulfil its orders, suggesting that it does not use a just-in-time 'manufacture to order' system but instead bases its production levels on sales budgets (that is sales are considered to be the principal budget factor). Getting the budgets right for sales volumes is therefore likely to be vital for all the accuracy of all the other functional budgets that follow, and participation in budget setting can help to achieve this.

The three sales managers at FireWorks are each likely to be experts in their own field, knowledgeable about their particular market and its competitive pressures and clear about the expectations of their specific type of customers. They are therefore much more likely to be able to draw up realistic budgets for their sector and use them to help set appropriate targets.

Since they work closely with Jack Lyons, Distribution & Logistics Director, and the logistics teams, they will also be aware of any distribution issues which may need to be taken into account.

Secondly, managers are more likely to accept the targets (often described as buying-in) if they were involved in the process of creating them. They should then feel responsible for the targets which are important as it should improve their motivation to achieve them. Where managers are motivated, they usually perform better, and the targets are more likely to be met. Where managers do not accept the targets, they are likely to be demotivated and will consider any resulting variances to be the result of senior management setting poor targets rather than a negative reflection of their own performance. This would also suggest that FireWorks would benefit from adopting a participatory approach – they are very keen to grow the business and getting the managers on board to help with achieving this will be vital.

However, to achieve these benefits, FireWorks will need to be prepared to make changes and the costs of these will need to be taken into account. Managers will first need to be trained in budget setting so that they understand the process involved. Additionally, the need to involve managers means making more time for budget setting, and FireWorks may therefore need to start the process earlier than usual. Finally, management needs to be aware of the risk of budget padding (where managers deliberately set lower targets so that they are easier to achieve) and will need to sign off on the suggested targets before they are formally agreed.

OPERATIONAL CASE STUDY

NOVEMBER 2022 & FEBRUARY 2023

EXAM ANSWERS

Variant 3

These answers have been provided by CIMA for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Time series analysis

The components of time series analysis

'Time series analysis' describes the technique of examining a time series (a series of results recorded over time) to determine whether there is an underlying historical trend and, if there is, using the data to forecast the trend into the future. A time series is made up of four components:

- **The trend:** The trend is the general direction of results. The trend can be estimated by using moving averages, and the centered four point moving average line on Graph 1 indicates a gradual but generally upward trend for FireWork's gas grill sales. In order to forecast future sales, we could subject this estimated trend to regression analysis to produce a trend line. This would allow us to forecast grill sales levels for future quarters.
- **Seasonal variations:** The analysis can also be used to identify whether there are any seasonal variations around the trend and where there are, to measure the variations and apply them to the trend line to create seasonal forecasts. We can see clearly see from Graph 1 that FireWork's gas grill sales are seasonal, with sales rising over April to September (which may be associated with the arrival of summer and the good weather) and falling from October onwards, steeply after December (presumably corresponding with the arrival of autumn/winter and colder weather). These seasonal changes in demand can be measured and built into future forecasts.

- **Cyclical variations:** As well as seasonal variations, a trend will also be affected by cyclical variations. These are medium term or long-term influences usually associated with the economy. Since these are often of inconsistent lengths and can only be recognised over many years of data, cyclical variations are not usually built into trend line forecasts. The graph provided only shows sales of grills over the past four years which is unlikely to be long enough to identify any cyclical variations.
- **Random factors:** Another influence on results is random factors. These are factors that cannot be predicted, such as the arrival of new competitors into the gas grills market, and so are usually ignored by the analysis, although in practice, they can have a significant impact on the final outcomes.

Limitations of using this data with a time series analysis to forecast our sales volumes

Using past data

One of the limitations of time series analysis is the assumption that past data is a good predictor of future performance. Increasing interest in outdoor and home dining, particularly amongst millennials, is expected to increase market growth to 5% a year over the next 5 years. If our past growth rates are lower than this, the forecast sales volumes we produce will understate the likely sales levels of grills in the future.

Additionally, rates of growth may also be affected by cyclical changes such as economic upturns or recessions which are not incorporated into the forecasts, but could respectively increase or dampen sales levels.

Finally, the product offering that we will have going forward is different from what we have now. With two upgraded Firecracker options, we will effectively have six products now in the range which are likely to impact future sales of the existing gas grill products.

Random factors

The outdoor grills industry is large and dominated by major brands. Unexpected actions such as price discounting, or the introduction of a new model, from these firms, or those middle-tier brands with which we are likely to be in direct competition, could have a major impact on future sales volumes, but this will not be predicted by the analysis.

Similarly, sales levels are likely to be highly affected by the weather (as is suggested by the seasonal variation in sales volumes shown on the graph.) The impact of climate change on weather fronts is unpredictable, but unexpected unseasonably warm or cold weather could have a significant impact on future sales levels.

Finally, the current predictions are based on the total volumes of gas grills sold and do not show the breakdown between the four different types of Firecracker and Crackerjack grills. The information provided is therefore limited in scope and provides fewer opportunities for us to tailor our production to the demand forecasts. Ideally, time series analysis should be carried out at this more granular level if more detailed sales data is available.

Selecting the selling price

Figures in the payoff table

Table 1 shows the potential impact on net contribution based on three different possible selling prices for the small Firecracker gas grill containing the new CCS technology (B\$770, B\$820 or B\$930), combined with three potential levels of impact on sales demand for the existing model (low, medium or high).

As the selling price of the CCS model decreases, it is to be expected that demand for it will increase. However, this increase will be offset by the lost contribution resulting from the associated reduced demand for the existing model. At the lowest selling price of B\$770, the impact of introducing the CCS model on the existing model is likely to be at its greatest. This is because the price differential between the CCS model and the standard model is at its smallest, so that customers need only spend a small amount extra to acquire a better grill. A higher selling price for the CCS model should mean lower sales demand for that model, but the impact on the sales demand for the existing model will be less severe because the price differential between the two models is greater.

The best outcome of BS\$859,514 arises if we set the selling price of B\$770, and the impact on demand for the existing model is low. At every price point, as the impact on demand for the existing model increases in severity, the net contribution reduces. However, the worst contribution of B\$389,214 also occurs if the selling price for the CCS model is B\$770 but where there is a high impact on demand for the existing model. This is because a higher number of standard model sales are lost.

Use of decision criteria

Maximax criterion:

Applying the maximax criterion means that the decision maker takes an optimistic (that is, operates on the assumption that the impact on the demand for the standard model will be low) and so chooses the best possible outcome. This means selecting the alternative that maximises the maximum pay-off achievable. We would therefore choose a selling price of B\$770, which has the maximum payoff of BS\$859,541.

Maximin criterion:

Applying the maximin criterion would mean selecting the alternative that maximises the minimum pay-off achievable. This is associated with a pessimistic outlook, which here would mean assuming a high impact on demand for the standard model. We would therefore choose a selling price of B\$930, as this gives the maximum of the minimum payoffs, providing a net contribution of B\$536,545.

Minimax regret criterion:

Applying this criterion means selecting the alternative that minimises the maximum regret under each alternative is selected. This is used to minimise the impact of making a bad decision (sometimes called being regret averse). The term 'Regret' refers to the opportunity cost of having made the wrong decision.

The regret matrix shows the regret (or opportunity cost) which arises depending on the impact on demand for the standard model and the selling price for CCS which we set. For example, if the impact on demand turned out to be low, we would have no regret if we had chosen a selling price of B\$770 because we would have earned the best net contribution. However, if we had chosen one of the other selling prices and the impact on demand was low, we would not have made the best decision and would experience regret. The regret where the impact on demand is low is calculated as the difference between the best net contribution of BS\$859,514 and the net contribution which would be earned at the selling price selected. For example, the regret if we set the price at B\$820 and the impact is low would be what we could have earned had we chosen the right price (BS\$859,514) less what we did earn (B\$816,481), that is B\$43,033.

Having calculated the regret which would arise at each different level of impact on demand, we can establish the maximum regret at each selling price. In this case, the maximum regret would be B\$147,331 at a selling price of B\$770, B\$43,033 at a selling price of B\$820 and B\$87,819 at a selling price of B\$930. Therefore, if we want to minimise the maximum regret, we should choose a selling price of B\$820.

SECTION 2

Actions to avoid a cash deficit

Cash

To avoid a cash deficit, we first need to forecast our cash requirements for the period, taking into account the intended timings of our planned expenditure (such as any credit periods offered by our marketing company or component suppliers), and the increased income expected from our new grill sales (considering any credit periods we may need to give to our customers). We can then establish a net cash flow position and draw up a plan which will allow us to avoid a cash deficit. There are a number of specific actions we can then take:

Changing the timing of planned payments

We could postpone non-essential expenditure (revenue or capital). For example, we could postpone the planned promotional expenditure. However, although such expenditure is often described as discretionary, in practice, a reduction or delay in the promotional spend for the CCS grills could have a major impact on our ability to achieve our planned sales volumes.

We could also reduce the amount of any dividend payment to the shareholders, which is often easier to achieve in a family-owned company where the shareholders better understand the needs of the business, or at least delay the payment until the income from the new range is being received.

Trade payables

To extend our working capital cycle, we could try to negotiate longer payment periods with some of our suppliers. The risk though is that we may lose settlement discounts so will end up spending more overall. Also, we may not wish to increase this further without our supplier's consent, otherwise, we could harm our suppliers' relationships, which could lead to restricted supplies, increased prices, or even stopping supplies.

Inventory

We should also review our management of inventory. Our inventory days are currently 2 months (68 days) which is the same as at the end of June 2022. As we aim to produce at a constant rate throughout the year, we expect finished goods inventory levels to increase each month until demand for our grills increase in the Springtime. Any attempt to reduce the finished goods inventory are likely to reduce profits in the medium term if we fail to produce enough to meet demand in the warmer months. Inventory levels of raw materials should be kept as low as possible whilst avoiding stock-outs which would delay production or make it difficult to fulfill orders. We could even consider the use of just-in-time purchasing and production systems, designed to reduce the level of inventory held to the bare minimum.

However such policies require high levels of efficiency throughout the production process and are not simple to instigate particularly where there is a continual production process, with materials presumably delivered at multiple points on the production line.

Trade receivables

We could attempt to raise funds to cover the cash requirements. This could involve short-term financing options such as improving our collection of trade receivables which has worsened from 40 days in June 2021, to 45 in June 2022. Although the 45 days in November 2022 seems comparable this may not be the case due to the seasonal nature of our business. It is possible that our receivable days are continuing to worsen because, as we have less credit sales in the cooler months, we would expect lower receivable days. We should ensure that our credit control department has an effective collection policy for trade receivables and ensure that we are carrying out adequate checks before offering credit to customers. We can also consider using a factoring company to provide finance based on our invoices and perhaps even take control of our credit control process to speed up our cash cycle.

Right-of-use asset

Under IFRS 16: Leases, right-of-use assets are initially recognised at cost. The initial cost of a right-of-use asset comprises: the amount of the initial measurement of the lease liability; lease payments made at or before the commencement date of the lease; any initial direct costs and the estimated costs of removing or dismantling the asset.

For this lease, payments will be made in advance. Therefore, the right-of-use asset will be initially recorded at a value that includes:

- The initial measurement of the lease liability, which is the present value of the future annual lease payments on 1 January 2023. This will be the present value of the three annual payments of B\$1,070,000 starting on 1 January 2024, discounted at 5% which is the interest rate implicit in the lease.
- The lease payment is to be made on the first day of the lease, which is B\$1,070,000.
- The lease arrangement fee of B\$27,000.

In our financial statements for the year ending 30 June 2023, this right-of-use asset will be measured at its initial cost less accumulated depreciation and impairment losses. In this case, as ownership does not transfer to us (the lessee), depreciation will be charged to the statement of profit or loss over the shorter of the useful life of the underlying asset and the lease term. This is therefore the lease term of 4 years. The depreciation charge for the first year will be for 6 months from January 2023 to June 2023 and will reduce profit for the year. The right-of-use asset will be included as part of non-current assets in the statement of financial position.

Key performance indicators

Web sales volume growth

Sebastian Roft-Shar, Sales & Marketing Director, has specifically indicated that he intends to grow the business and increase market share, so sales volume growth would be a key indicator. This would be a comparison of sales volumes in a particular period (for example, a week or a month) with sales in the previous period. Over time, a comparison could also be made with sales in the same period the previous year. Comparisons can also be made between the growth rate of different items in our product ranges. Since the market for outdoor grills is expected to grow by 5%, our sales volume growth rate should be compared with overall market growth and also (if the information can be obtained) with the growth rates being achieved by any competitors. Any fall in sales volume growth would trigger the need for an investigation to establish the reasons for the reduction, but if comparisons suggest that our sales growth rate is lower than the market as a whole, we will also be losing share, and this may require more immediate action.

Conversion rate

The number of customers visiting our website to browse outdoor grills is an indication of the level of interest in the product, but, to be profitable, it is essential that we can convert potential customers into actual purchasers.

The conversion rate, which is measured as a percentage, is calculated by dividing the total number of conversions by the total number of visitors (to the site, page, category, or selection of pages). This gives us the percentage of our prospective customers that we successfully convert to purchasers. The higher our conversion rate, the better we are doing at persuading customers to buy. A low conversion rate could indicate that we need to make changes to our website. Customers may not be able to find the information they require, may not be sufficiently tempted by the products or perhaps we need to offer better deals, for example, improving the speed of delivery. The rate should also be monitored over time. A falling conversion rate could indicate that our prices are becoming uncompetitive or that potential customers are now purchasing from our competitors.

Shopping cart abandonment rate

The shopping cart abandonment rate will tell us how many users are adding products to their shopping cart but not checking out. This is a really useful metric as these customers that are nearly convinced to buy but are being lost at the final stage of the purchase.

It can be calculated as a number of shoppers abandoning a filled shopping cart divided by number of shoppers adding products to a shopping cart in the first place. The lower this number, the smaller percentage of overall customers are abandoning their purchases before completion.

If the cart abandonment rate is high, this often indicates that there is too much 'friction' in the checkout process, and changes may involve ensuring purchases are easier to make (that is that they involve fewer clicks between filling the cart and completing the transaction). It can also be a sign that delivery charges, which are often added at the end of the process, are too high, and thus putting customers off.

SECTION 3

Relevant costs for pricing

Minimum price for the new CCS model of the small Firecracker gas grill

In order to determine a minimum price for the new model, we need to consider the associated relevant costs. These are the future, incremental cashflows which will arise as a result of the manufacture and sale of the product. Any costs which have already been incurred, or which will not increase as a result of the decision to make and sell the new model, will not be relevant and should not be included in the calculation of the minimum price.

1. The cost of raw materials is relevant if it relates to a future incremental cash flow. The components to be acquired for the CCS model of B\$95,625 are therefore relevant. The cost of other standard components is also relevant because they are in continual use and will have to be replaced if they are used on the CCS model. The historic cost of \$391,875 is not relevant as it is sunk, instead, the relevant cost is the replacement cost of B\$420,000.
2. As there is limited direct labour capacity in the assembly department, production of 35% of the new model will require overtime work. The cost of this overtime, including the 50% premium above the normal rate, is, therefore, an incremental cash flow and relevant. However, the cost of the other 65% of the production of the new model which can be done within normal paid working hours is not incremental and therefore not a relevant cost. The costs associated with labour in the other three departments are also not incremental and therefore not relevant.
3. Production overheads in the schedule for all four departments include both a fixed and a variable element. However, unless fixed costs are expected to step up as a result of increased production levels, the fixed element will not be incremental and should therefore be treated as irrelevant. Variable overheads, however, can be expected to change as a result of the decision to manufacture the new model and any incremental variable overhead costs incurred are therefore relevant. The variable overhead absorption rate is taken to be representative of cash flow and can be used to estimate the incremental expenditure.
4. The costs for the external technician are future incremental cash flows and therefore relevant. However, the share of the IT department costs is an arbitrary apportionment of an existing cost. As a non-incremental charge, it should not be treated as relevant.
5. The development cost has already been incurred and, as a historic sunk cost, is not relevant. The amortisation cost is not a cash flow and therefore also irrelevant.

Appropriateness of a relevant cost approach

Setting a minimum price based on relevant production costs is suitable for a short term or one-off decision where management is focussed solely on covering the incremental costs associated with a project and can therefore ignore the longer-term need to cover fixed overheads. This approach is useful where there is, for example, significant competition or spare production capacity.

Here, the SMT is considering offering a low initial price but, presumably, this price penetration policy would only be in operation over the short term. It may be effective in helping FireWorks to establish market share ahead of the competition, allowing them to develop economies of scale and so reduce the cost per unit.

However, there are some risks in using this approach. Depending on the market, it can be difficult to later raise prices without deterring consumers, but the minimum price cannot be sustained in the longer term as fixed costs must be covered and shareholders will require that a profit is earned. Management may do better to use this minimum price as a benchmark for setting a competitive but higher price, which will allow them to cover some fixed costs, secure market share, and require a smaller price rise after the initial promotion period is over.

Absorption costing versus marginal costing

Differences in the profit statements

Both profit statements are produced using the same data: the units produced and sold, the number of units in opening inventory and the total variable and fixed costs for the period.

The difference between the two methods is the way in which the fixed overhead is treated. In the absorption costing statement, an element of the budgeted fixed overhead of B\$15,810 is included in the cost of each unit, based on our budgeted production levels. The value shown for opening inventory, production cost and closing inventory values are all higher in the absorption costing statement than in the marginal costing statement because they contain this fixed cost element, which is not included when a marginal costing approach is used.

Because the amount of fixed overhead absorbed by each unit is based on budgeted production levels and overhead costs, absorption costing statements also include an under or over absorption adjustment. The adjustment aligns the absorbed amount with the actual expenditure incurred on fixed production overheads.

There is no need for this line in the marginal costing statement because under this method fixed production overheads are not absorbed by the units produced, they are simply charged as the actual amount.

The profit figures in the marginal costing and absorption costing statements are therefore different because in both weeks the inventory level is decreasing (more goods are being sold than are being produced), and this means that less fixed overhead is being carried forward in closing finished goods inventory valuation than is being brought forward in opening finished goods inventory. This results in a higher cost of sales and a lower profit than under marginal costing.

It should be noted that marginal costing will not always give us a higher profit figure than absorption costing. In times where inventory levels are rising, marginal costing profit will be lower, and when inventory levels are static, both methods will produce the same profit.

Benefits of using absorption costing

Controlling fixed costs is an important part of the overall cost management process. At FireWorks, fixed costs represent between 20%-30% of the overall product cost and, by absorbing these costs into our costs per unit, we help to ensure management pay attention to the overall level of fixed costs being incurred. Fixed overhead variances can be calculated using these product costs to help monitor and control costs.

Additionally, by using a full costing method, that is, by adding a mark-up to full production costs, we can set prices that ensure that we cover all our production costs, including fixed overheads, over the long term and that we earn a profit.

Absorption costing also conforms to the matching concept. By bringing in an element of fixed costs from the prior period in opening inventory and deducting an element of fixed costs in closing inventory, we can ensure that our cost of sales figures is matched to the sales value when the grills are sold. This stabilises our figures and avoids extreme profits and losses being reported. Given we have an element of seasonality in our business, this is particularly important as there are likely to be periods where our inventory levels fluctuate significantly.

Finally, IAS 2 requires that conversion costs are included in inventory valuation. This includes fixed production overhead provided it is allocated to units of production systematically and consistently. Our use of absorption costing, rather than marginal costing, therefore simplify our accounting process, as the management accounting figures can be used for the financial statements and we can be sure that they conform to accounting standards.

SECTION 4

Fixed production overhead variances

Expenditure variance

The fixed production overhead expenditure variance is the difference between the actual fixed production overhead incurred during the 4-month period and the fixed production overheads originally included in the budget for the period drawn up in July 2022. The variance is adverse, which means that we incurred B\$12,936 more fixed production overhead than we had budgeted. This increase in fixed overhead costs since the budget was originally drawn up is to be expected as we needed to increase production levels to cope with higher than anticipated demand for grills. Specific reasons for this are:

- We purchased additional machinery which will have led to increased depreciation charges.
- The additional machinery will also have required insuring, which would have increased our insurance premiums.
- We took an additional supervisory staff which will have increased fixed labour costs.

Usefulness: For the purposes of cost control, we would need to compare our actual expenditure with budget figures which had been revised to take account of the expected increase in capacity, rather than the original budget, which was inevitably lower. This variance is known as an operational variance and would be deemed to be within the control of the departmental manager. The difference between the original budget and the revised standard would be classed as a planning variance and shows the error arising from failing to plan capacity correctly.

Capacity variance

The fixed production capacity variance reflects the difference between the original number of budgeted direct labour hours and the actual direct labour hours worked (multiplied by the standard absorption rate per hour). The fact that the variance (B\$39,527) is favourable reflects the fact that we increased our capacity, bringing in more staff to work on the additional machines, and requiring them to work overtime, so that the actual hours worked were greater than the original number of hours we had budgeted.

Usefulness: It should be borne in mind that this increase does not indicate that workers were fully utilised. We could have had significant amounts of downtime which are not evident from this variance as it only compares actual hours with the original budget, rather than with what we may have hoped to achieve given our increased investment in capacity. Again, a comparison of actual hours with a revised budget that took

account of the increased capacity (that is using an operational variance approach) would provide us with more useful information.

Efficiency variance

The efficiency variance is the difference between the standard hours we would expect to see for actual production and the actual hours that were worked (multiplied by the standard absorption rate per hour). This variance is adverse (B\$10,467), which means that we used more direct labour hours to assemble the grills than we should have. In other words, direct labour was not as efficient as it should have been. This may be because new and inexperienced employees were employed to cope with the increased demand without additional training, and so took longer to complete each task than the regular experienced staff would have done.

Usefulness: The variance does not reflect the impact on our profits of this inefficiency, it only reflects only the potential impact on the absorption of fixed overheads, and any over or under absorption will be adjusted for in the final calculation of profit. To understand the impact of this inefficiency on profits, we should examine the direct labour and variable overhead efficiency variances.

Total variance

The total of the three variances represents the extent to which overheads have been over or under absorbed in the calculation of profit. It is the difference between the amount we spent on production overheads and the amount we absorbed (the standard number of hours needed for the actual output multiplied by the standard absorption rate per hour).

Usefulness: The fact that the variance is favourable means that overall we have over-absorbed B\$16,124 of production overhead. It provides an indication that there is a potential problem somewhere but does not provide us with any additional detailed information about where this problem lies.

The absorption rate was based on the original budgeted labour hours and the original budgeted fixed overheads. During the period, although expenditure was higher than the original budget, because of the increased levels of production, the standard hours needed for the actual output, have absorbed enough overheads at this current rate to more than cover the increase.

Beyond budgeting

With a 'beyond budgeting' approach, rolling forecasts on a monthly or quarterly basis would be created as an alternative to the annual budget. These rolling budgets will use the latest information each time (for example, the latest prices for bought-in components and raw materials, or updated labour rates) and will also be based on the latest sales and production forecasts. If we had used this approach, the budgets for

the last 6 months of the past financial year would have been more up-to-date and reflected the higher-than-expected demand and our planned changes to capacity. This approach should result in budgets that are more forward looking, leading to better resource allocation (because our plans will be more informed) and allowing us to adapt to changes more quickly. This would have allowed the packing department time to gear up for the additional units they would need to process, as they would have had more knowledge of what was expected.

Additionally, under a beyond budgeting approach, instead of just evaluating performance against budget targets (through variance reporting), the focus is on a wide range of key performance indicators (KPIs), including metrics linked to customer satisfaction. In the packing department, this could include several items packed per worker, elapsed time between items arriving in the packing department and being loaded onto a pallet for transportation to the Distribution Centre, number of complaints received about missing or items or instructions, number of returns based on items damaged in transit, levels of packing waste generated and so on.

In addition, if possible, when setting KPIs, we should consider what is being achieved by our competitors and use these benchmark standards to monitor our own performance. Assessing managers' performance against appropriate KPIs measured over time should encourage them to strive for continuous improvement within the business and should also improve performance against competitors.

Beyond budgeting also involves participation across the business and is a team-based approach. Currently, we take a central approach to budgeting where the annual budget is set by the directors with little input from the rest of the business. Under a beyond budgeting approach, this would change as the people within the business with the detailed knowledge would be involved in creating the rolling budgets. A key benefit should be that the budgets are more realistic. In addition, participation in the process should motivate our managers by giving them clear responsibilities and targets that they will have been involved in setting.

How issues should be treated in the financial statements:

Because the financial statements for the year ended 30 June 2023 are still being finalised, it is possible to make adjustments for events that happen after the reporting period as long as they are adjusting events in accordance with IAS 10: Events after the reporting period.

Issue 1: Payment received in settlement of patent breach

The payment from our competitor on 8 July 2023 represents an adjusting event. It is adjusting because payment of the B\$327,000 gives evidence of a condition (the size of the potential gain) that existed at the reporting date of 30 June 2023 but could not be quantified at that point.

Because this is an adjusting event, the B\$327,000 should be credited to profit or loss for the year ended 30 June 2023.

Issue 2: Grill damage resulting from fire

The fire in the warehouse happened on 5 July 2023 which is after the end of the reporting period. It is a non-adjusting event because the fire is independent of any condition which existed at the reporting date of 30 June 2023.

Any impairment as a result of the damage caused will be charged to profit or loss in the year ending 30 June 2024 rather than 2023. However, as it only relates to one week's production, the impairment is unlikely to be significant enough to disclose in the financial statements for the year ended 30 June 2023 as a non-adjusting event.

OPERATIONAL CASE STUDY
NOVEMBER 2022 & FEBRUARY 2023
EXAM ANSWERS

Variant 4

These answers have been provided by CIMA for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Fixed overhead variances for November 2022 for the Steel Pressing & Welding Department

Expenditure variance

The expenditure variance is the difference between the budgeted and actual fixed production overhead. This variance is B\$17,800 adverse, which means that within the department more was spent in November on fixed production overheads than budgeted. Fixed overheads by nature are expected to be constant across a given level of activity. Therefore, the main reason for this adverse variance is a step in fixed production overheads arising from the increased level of production and the need to employ an additional welding supervisor. In addition, extra welding equipment had to be hired for short-term rental which will have increased hire costs.

Efficiency variance

The efficiency variance is the difference between the standard hours worked for the actual work done and the actual hours worked multiplied by the standard absorption rate per hour. This variance measures the efficiency of the absorption base which is direct labour hours. The B\$16,656 adverse variance means that we used more direct labour hours to press and weld the grills produced than we should have. In other words, direct labour appears to be less efficient than expected. We employed five new inexperienced welders at the start of the month who will have needed time to learn our processes. Also, because these welders were inexperienced it is likely that they worked more slowly than an experienced welder.

Capacity variance

The capacity variance reflects the difference between the originally budgeted direct labour hours and the actual direct labour hours worked multiplied by the standard absorption rate per hour. This variance is B\$43,324 favourable and indicates that more direct labour hours were worked than originally budgeted, reflecting an increase in the capacity of direct labour. The increase in hours arose because we took on additional direct employees and worked overtime in order to increase our production of grills. The actual number of direct labour hours worked was also inflated by the new inexperienced welders taking longer to do the work.

Total variance

The total variance reflects the difference between actual expenditure and the amount of fixed production overhead absorbed. This variance is B\$8,868 favourable, which means that actual expenditure is lower than the amount absorbed and that we have therefore over-absorbed fixed production overhead. Overall, the impact of the step in fixed costs and the lower than standard efficiency of the direct employees has been outweighed by the impact of the increase in capacity needed for the higher-than-budgeted level of production.

Feedback control

In a feedback control system, actual results are compared against planned results with any differences investigated and then appropriate actions are taken to address any control issues that have emerged. We operate a standard costing system and part of this involves calculating variances between actual results and planned results, which are based on our standards and budgets. Therefore, our variance reporting is a key part of our feedback control system.

The fixed production overhead variances shown in Table 1 compare the actual expenditure and direct labour hours worked with what we had expected based on our original budget and our standards. As explained above, an investigation of these variances has identified the reasons why they have occurred. The next stage of the control loop is to decide on any actions that are needed going forward to eliminate any negative effects and to also promote any positive effects. It must be noted though that feedback control happens after the event and therefore any action can only affect future performance and cannot change the results of the period under review.

Negative feedback, which should result in corrective action, occurs when performance is not as it should be, and arises when variances are adverse. For example, the adverse fixed production overhead efficiency variance is likely because of the inexperience of the new welders taken on. An appropriate action might be to provide additional training for these employees or indeed to introduce a recruitment policy regarding the balance of experienced / inexperienced employees that can be taken out at any one time.

It should be noted that not all negative variances require action. For example, Table 1 indicates an adverse fixed production overhead expenditure variance as a result of a step up in fixed costs. This increase in costs is likely to be necessary in order to increase production capacity and therefore we need to consider the impact of the adverse expenditure variance against the favourable capacity variance.

Positive feedback arises where performance is better than expected and there are favourable variances. Where this is the case, it is important that the reasons for the better performance are identified so that such performance continues in the future. Positive feedback often leads to increasing targets (in our case the standards) to encourage the continuation of this better performance. Given the increase in capacity, as shown by the favourable capacity variance, this should be reflected in new standards and a revised budget.

Profit-volume chart

What the chart tells us and break-even and margin of safety

Assuming that we sell grills in the budgeted mix, Chart 1 indicates that we will break-even (that is make enough contribution to cover all of our fixed costs) at revenue of just over B\$30 million. This gives us a margin of safety of around 42% because total revenue in the period would need to fall from around B\$52 million to B\$30 million before a loss is made.

Assuming that we sell our grills in the order of their c/s ratios (electric, then gas, then charcoal), break-even is reached earlier (at revenue of approximately B\$27 million) and therefore the margin of safety is slightly larger at around 48%.

How the chart and break-even position would be affected by changes to the budget

If a greater proportion of sales were through the retailers rather than the website for all grill types, this will change the average c/s ratios for each type of grill as well as the weighted average c/s margin. Because we charge retailers a lower price than our website customers, a greater proportion of sales to retailers will reduce the c/s margins. The effect of this on the chart is that the gradients of lines AD and ABCD would become shallower resulting in an increase to the break-even point and a reduction in the margin of safety. It would also reduce the amount of budgeted profit for the period.

A greater proportion of electric grills and a lower proportion of charcoal grills will change the mix of grills sold. This will increase the weighted average c/s ratio, although leaving the individual c/s ratios the same. On the chart, the gradient on the line AD will become steeper, meaning the break-even is reached sooner and the margin of safety increases. For line ABCD, section AB would become longer, and section CD would become shorter, again resulting in a reduction in the break-even point and an increase in the margin of safety. Overall, the level of budgeted profit would increase.

SECTION 2

Zero based budgeting (ZBB) for the on-site cafe

The first step involved in applying a ZBB approach is to determine the objective of the new on-site cafe, which is to improve the working environment and thereby increase employee morale. This can be achieved through the provision of the cafe service.

The next step in applying ZBB is to develop decision packages. These decision packages will reflect different ways in which the objective could be achieved or different levels of expenditure that could be incurred. Decision packages can either be mutually exclusive (different ways of achieving the same objective) or incremental (different levels of service to achieve slightly different outcomes).

For the provision of refreshments, we may consider operating the cafe internally or engaging the services of an external catering company or even a well-known cafe chain. These would be mutually exclusive options and, for each of these, incremental decision packages could be developed. These would start with a base package, which is the minimum level of cafe service that we would consider. For example, this might be to provide the service only at certain times of the day and to provide a basic level of drinks and snacks with limited choice. Incremental decision packages could then build on this in terms maybe of hours of operation and the quality and range of the food and drink available to purchase.

Each decision package would need to be costed and justified in respect of all of the potential benefits that would arise from providing that level of service. These benefits would include the anticipated level of revenue earned from employee purchases as well as the intangible benefit of a satisfied workforce in respect of improved motivation and efficiency. After the decision packages have been fully developed with costs and benefits identified, they would then need to be ranked in order of preference, before a final decision about the level of service to provide.

Benefits and challenges of using a ZBB approach

A key benefit of using a ZBB approach to determine a budget for a new on-site cafe is that it means that several different decision packages or different options for the cafe will be considered. Each of these options will be fully justified in respect of the anticipated benefits arising from the costs to be incurred. The decision packages chosen will therefore reflect the best combination of cost and benefit.

Another benefit of using this approach for this budget is that the experience gained could be used on other budgets across the business. ZBB is particularly useful for budgeting discretionary expenditure and could usefully be applied to creating budgets for, for example, our marketing and training budgets. Using ZBB will help focus managers on the effectiveness of different types of marketing or training so that resources are allocated to the most effective type. This approach will also help to ensure that managers view an activity, such as the provision of a cafe (or indeed marketing or training) as an important function rather than just a pot of funds to be used up.

A key challenge of applying a ZBB approach for the on-site cafe budget is the amount of management time that will be required. Creating decision packages that are fully costed and justified in respect of benefits is time consuming. In addition, we may not have the necessary skills to carry this and managers may resent being asked to do it, if they do not foresee any personal benefit.

Another challenge is that establishing some of the benefits of the decision packages can be difficult, especially where the benefits are intangible such as employee satisfaction. Even for the tangible benefit of revenue from employee purchases, there will be considerable uncertainty regarding the number of employees that will use the cafe and what they will purchase. The intangible or uncertain nature of many of the benefits also leads to issues when ranking decision packages.

KPIs

% refreshment wastage: There are numerous ways that this could be measured, for example, the cost of the refreshments thrown away divided by the cost of refreshments purchased, expressed as a percentage. This could be calculated on a daily, weekly or monthly basis. Part of our ethos is sustainability, including an aim to be carbon neutral. This ethos should apply to any support services that we operate as well as our main production processes. Wastage represents a direct cost to both the business and the environment. A high level of food waste or an increasing level of waste could indicate poor management of the cafe, for example, excessive ordering or poor ordering choices.

Customer satisfaction: The cafe customers will be our employees, and we could measure customer satisfaction through some kind of rating system. Perhaps we could have a periodic customer satisfaction survey which asks our employees to rate the cafe service ranging from scores of 0 to 5. Or we could have a press button rating system at the cafe that employees can press to rate their experience that day (maybe good, average and poor). The rationale for providing the on-site cafe is to boost employee satisfaction generally. If their satisfaction with the cafe isn't good, then it is unlikely to have to achieved this.

Daily revenue: The on-site cafe will provide an opportunity to generate revenue, as employees will pay for their purchases, albeit at subsidised prices. This could be measured simply as the revenue taken on a day and compared to a target. We could also calculate the growth or reduction in revenue on a daily or weekly basis. Whilst higher revenue will be matched with higher variable costs, the more revenue we generate the greater the contribution towards the considerable fixed costs associated with operating the on-site cafe. Regularly not achieving revenue targets would indicate that maybe the cafe isn't offering our employees the quality or range of refreshments that they might wish for.

SECTION 3

Accounting treatment of the lease

In accordance with IFRS 16: Leases, we will need to initially record a right-of-use asset and a lease liability.

Right-of-use asset

The right-of-use asset will initially be measured at the present value of the future lease payments plus any lease payment made at the start of the lease term plus any lease arrangement fees. Therefore, the right-of-use asset will be initially measured at the present value of the seven payments starting from 1 February 2024, plus the first payment of B\$150,000 plus the lease arrangement fee of B\$4,000.

The right-of-use asset will need to be depreciated in line with the principles of IAS 16: Property, Plant and Equipment. Because we will own the pressing equipment at the end of the lease term, the depreciation period will be the useful life of the asset and therefore 10 years. For the year ending 30 June 2023, this will result in 4 months of depreciation being charged to profit or loss with the initial value of the right-of-use asset reduced by the depreciation. Depreciation will be 4 months rather than 5 months because the pressing equipment will not be available for use until 1 March 2023. The right-of-use asset will be included as part of non-current assets.

Lease liability

The liability will initially be measured and recorded at the present value of the lease payments that are unpaid at the commencement of the lease and which are due over the lease term. The initial lease liability will be measured as the present value of the seven payments of B\$150,000 starting on 1 February 2024. The discount rate used to calculate the present value should be the interest rate implicit in the lease which is 10%.

For the year ending 30 June 2023, the lease liability will be increased by a finance charge of 10% of the initial lease liability, pro-rated to reflect the fact that 5 months of interest will relate to this financial year. This will be charged to profit or loss and reduce profit for the year. At 30 June 2023, the lease liability will be split into a current liability and a non-current liability.

Accounting treatment for damaged welding equipment

The damage to the welding equipment and subsequent repair has resulted in a reduction in the useful life of the asset. Where there is a change in useful life, IAS 16 Property, Plant and Equipment, states that from the date of the change the carrying amount of the asset should be depreciated over its remaining useful life.

We purchased the welding equipment on 1 July 2022 and therefore at the date of the damage (1 January 2023) the carrying amount of the welding equipment will be

B\$100,000 less 6 months' worth of depreciation based on its useful life of 8 years (which is B\$100,000 divided by 8 multiplied by 6/12). From 1 January 2023, we need to recalculate depreciation to reflect the new useful life. For the year ending 30 June 2023, we then need to account for 6 months' worth of depreciation. This will be calculated as the carrying amount on 1 January 2023 divided by 5 and multiplied by 6/12.

The B\$12,000 paid to repair the welding equipment will be written off to profit or loss for the year ending 30 June 2023 because IAS 16 states that such repairs and maintenance costs are expensed when incurred.

Costing of Fountain app

The type, nature and cost behaviour of future costs associated with the app

The future costs associated with the app will include:

- **Royalties:** For every app downloaded, we will need to pay ExcelApps B\$0.50. This is a direct cost associated with this particular app. It is also a variable cost because the amount that we ultimately pay will depend on the number of downloads.
- **Functional services costs:** The fees payable to the three service providers will be direct costs because they will relate to this particular app. There will be a fixed element (the charge for hosting the app) and a variable element (the fee per download) to the cost.
- **Infrastructure services costs:** The infrastructure required for operating our app will include the servers which support the hosting of the app, data storage and data delivery. Costs here will include any costs for upgrading and maintaining our servers and such costs are likely to be indirect in nature because they will relate to the servers as a whole and not to this specific app.
- **IT support services costs:** Operating our app will require ongoing technical IT support services, which will be provided by ExcelApps. These will be direct costs as they will relate specifically to this app and will be fixed in nature, although will depend on the number of bugs to be fixed and the level of app development required in the future.
- **Administrative services costs:** The app will be administered via a dashboard by our own IT team. The costs of providing this administration support will be an indirect cost because our IT team will do more than just administer the app. It is also fixed in nature, and it will not vary in relation to the number of apps downloaded.

Difficulties of establishing a cost per download of the app

The cost per download of the app will include the direct costs per download, which are the royalty fee payable to ExcelApps plus the fee per download to the service

providers. It will also include the direct costs associated with the app (which will include the up-front development cost) divided by the number of downloads plus any indirect costs associated with the app divided by the number of downloads. The difficulties with doing this are:

- Establishing the number of downloads of the app over its lifetime. This will depend on how many Fountain grills we sell and also whether all customers that buy a Fountain grill actually download the app. In addition, the lifetime of the app is uncertain. The app technology or the technology of the Fountain grill may be superseded, but at this stage, it is hard to gauge how long before this happens.
- Determining an appropriate share of the indirect costs associated with the app such as infrastructure and administration services. If we consider administration costs, our IT team will be involved in many projects across the business and therefore it will be hard to determine how much of that cost should be assigned to the app.
- Establishing at this stage what the future costs are going to be. Some costs are known up-front (for example, development cost and royalties) and some will be established quite quickly (for example, the service provider fees), but others will depend on the level of work required or the number of problems encountered (for example, fixing bugs).

SECTION 4

The supplier decision under different risk approaches

Risk neutral

Using a risk neutral approach to this decision, we would choose the contract which would give us the highest expected value. In this instance, this would be Contract 2, which has the highest expected value of B\$556,000. This is the second contract offered by the supplier, WoodSmoke, which would include us funding a promotional campaign.

A limitation of using this approach is that it is based on expected value. The expected value is the weighted average outcome (weighted by the probability of each outcome's occurrence) and therefore represents a long run average assuming that the decision is taken many times. The expected value does not reflect any of the possible outcomes that we will achieve for the 12 month period and therefore is not appropriate for this decision, which is a one-off decision.

Risk seeking

Using a risk seeking approach to this decision, we would choose the contract which would give us the best outcome no matter how small the likelihood of it occurring. We would choose the campaign which would give us the highest possible profit, which is again Contract 2 at B\$1,075,000.

A limitation of using this approach is that it ignores the fact that there is only a 30% chance of achieving this best outcome. It also ignores the fact that if this contract is chosen there is a 20% chance of making a loss of B\$80,000 as a result of Contract 2 requiring us to fund a promotional campaign. Contract 2 is the only contract where a loss is possible based on our estimates.

Risk averse

Using a risk averse approach to this decision, we would choose the contract that, given the same level of expected return, has the lowest level of risk. We would use the coefficient of variation and choose the option with the lowest measure because this represents the amount of risk for each B\$1 of expected return. A risk averse decision maker would therefore choose Contract 3 with supplier FirePellet as it has the lowest coefficient of variation at 0.20.

A limitation of this approach is that it uses the coefficient of variation, the accuracy of which is dependent on the reliability of the data that it is calculated from. Different estimates for probabilities and level of sales would change the expected values and therefore the coefficients of variation. That being said, Table 1 shows that the range of possible outcomes for Contract 3 is significantly lower than for the other contracts.

Perfect information

The value of perfect information of B\$96,000 is higher than the cost of obtaining that perfect information of B\$80,000. Therefore, it would potentially be worthwhile buying this information, although the additional benefit is not that significant given the size of the potential outcomes.

If we had a risk neutral approach to the decision, we would select Contract 2, which gives us the best outcome if the market reaction is good and also where it is reasonable. Therefore, if either of these outcomes arise, it would not have been worthwhile buying the perfect information, because we would have paid B\$80,000 but achieved the best outcomes anyway. If market conditions are poor, Contract 2 would result in B\$480,000 less profit than would be achieved in the best outcome here (which would have been to select Contract 3). The perfect information would protect us from making a loss and therefore we would need to consider if it is worth paying B\$80,000 for this protection, when we estimate that there is only a 20% chance of this occurring.

If we had a risk seeking approach, we would not be concerned about the likelihood of an outcome occurring and would be prepared to take the risk that the best outcome would occur. Therefore, as a risk seeking decision maker, we would not be interested in purchasing perfect information, despite the fact that this might stop us from making a loss. If we had a risk averse approach, we are likely to be happy to pay for the perfect information because this would eliminate risk from the decision altogether.

Setting credit limits for new retailers

When setting credit limits for these new retailers there are two decisions that we need to make for each retailer: how much credit to allow them and how long we will allow them to pay (the credit term).

The amount of credit we allow will determine the maximum amount that the retailer can owe us at any one time. Therefore, a key factor that we will need to consider here is the size of the retailer and the likely level of orders that they may make. Table 4 shows that SmartCook has considerably higher revenue compared to OutsideLiving, and therefore we might sensibly expect that SmartCook will need a higher credit limit. Although we should also note that OutsideLiving has experienced high revenue growth recently, and therefore we will need to factor this in as well.

However, to determine the maximum amount of credit, we will also need to consider the risk that the retailer will not pay us. Obviously, the higher the amount of credit, the larger the impact on profit if the retailer fails to pay us because, possibly, it has ceased trading. The risk of a retailer not paying us is also the main consideration when determining the credit terms we will offer.

To assess the risk of non-payment for each retailer we need to consider their creditworthiness. To do this, we can look at a raft of information about each retailer including their financial statements and press reports. Using the information in Table 4, we can make the following observations about each retailer:

- SmartCook is a relatively large retailer, however, it has experienced a recent reduction in revenue, which could indicate that its presence in the market is in decline. This view is supported by the fact that it has a high level of inventory and high payable days compared to the industry average. It also has a small overdraft, indicating perhaps that it has been struggling to pay its suppliers. Maybe SmartCook isn't promoting itself well enough, or maybe its retail outlets are dated.
- OutsideLiving, in contrast, is a much smaller retailer but has demonstrated significant growth over the last year. Its inventory days are in line with the industry as a whole and its payable days are lower than the average, perhaps because as a small business, the credit terms it's been granted from its suppliers are low. It has a small positive cash balance, which taken with the other information make indicates that Outside Living is a relatively new business that is now doing well.

Based on this analysis alone, we may consider offering both retailers a relatively small credit amount and low credit terms. Neither retailer looks to currently be in a strong position. However, before making a final decision we should also consider factors such as the age of the retailers. OutsideLiving could be a relatively new business as it has low revenue, but high growth. Assuming it can stabilise its finances, the risk of non-payment would reduce, which means that we could increase the credit limit that we set for this retailer in the near future.

OPERATIONAL CASE STUDY

NOVEMBER 2022 & FEBRUARY 2023

EXAM ANSWERS

Variant 5

These answers have been provided by CIMA for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Rolling budgets

Rolling budgets and their potential benefits

A rolling budget, also known as a continuous budget, is updated by adding a further accounting period, usually a month or quarter, when the earliest accounting period has expired.

A rolling budget approach should be more accurate than the current approach, as it re-examines the assumptions used to compile the nearest budget periods as well as adding the budget periods further away. The next period is almost constantly under review, and the period closer to now is examined in the most detail. Therefore, the approach helps to decide how to prepare and respond to uncertainty and is vital when the environment is changing rapidly or, as in this case, where there is a lot of uncertainty surrounding all the new initiatives being proposed by Catherine. With a rolling approach, our budgets for sales revenue and costs of GrillSkill and the other new initiatives would be more accurate, reflecting the latest expectations. As a result, budgets would be more realistic and therefore better for comparing actual results than a fixed budget. Realistic budgets facilitate better performance management and can therefore be more motivational.

A rolling budget process does not necessarily result in changes in the underlying assumptions that make up the budgets each month or quarter, but it does offer an opportunity for more frequent reviews. A rolling approach would offer additional opportunities to review the budget and, while the most emphasis will be on the closest periods, it will also ensure that we are aware of the prospects further ahead. This will be particularly important for the proposed GrillSkill business which is subject to seasonal fluctuations. This approach will also allow the business to react more quickly to a change in the environment than the current annual process allows.

Rolling budgets are particularly suited to planning cash flow, which needs to be reviewed regularly. The proposed GrillSkill classes and numerous other initiatives will require an investment that is likely to have an impact on our cash flow. As there is also high uncertainty of demand, it will be important for us to focus on cash management. Because of the improved accuracy that a rolling budget offers, potential cash deficits can be identified as early as possible, allowing action to be taken to improve the situation.

Drawbacks of adopting rolling budgets

Rolling budgets can involve a significant amount of work, although it could also be argued that they spread the workload. More work results in a more expensive budget setting process.

There is limited benefit in planning too far ahead, as the accuracy achieved may not be worth the expense of gathering and analysing the information. The further out the period under review, the less accurate it is likely to be, and this may be dangerous if the long-term element of a budget is over-relied on for planning and decision making. If we adopt rolling budgets at FireWorks, it would be important to ensure that additional long-term work is limited to areas where there are clear benefits.

Frequent changes to a budget can cause communication issues and confusion for the managers that are tasked with implementing them. These managers may also perceive changes in budgets to be a continuous moving of the goalposts, which may be demotivational.

It may be more appropriate to implement rolling budgets for those budgets that are needed in the most unpredictable business environments, such as the budgets for the proposed GrillSkill and other new initiatives. There may be less benefit in introducing rolling budgets for the manufactured grills and we could leave the existing incremental budgeting approach in place for our existing operations.

Time series information

What the time series information tells us

The trend line represents the trend in the number of classes for the period January 2015 to December 2019. The trend is the average position over time with seasonal variations smoothed out. The first number in the equation represents the base level demand for cookery classes. The second part of the equation represents the trend since this base level. For each successive quarter, the trend is for an increase of 30 classes. Therefore, in quarter 1, the trend for cookery classes was $= 600 + 30$, in quarter 2 $= 600 + (30 \times 2)$ and in quarter 3, $= 600 + (30 \times 2)$, and so on.

The seasonality information in the second table indicates how different times of the year affect demand for cookery classes, over or below the trend. Seasonality has been calculated using the multiplicative model, which means that demand for Udenfor classes is 50% higher than the trend in the quarter July to September and 70% lower than the trend for the quarter January to March each year. This seasonality is quite

extreme and indicates that demand for grill-cookery classes correlates with the seasons. It appears that few classes for outdoor cooking are required during the colder winter season.

Usefulness of this information for planning purposes

Knowing the level and degree of seasonality is useful for planning purposes because Beeland enjoys similar seasons to those of North America and can therefore expect similar patterns. Given the extremes of demand, we will need to focus on how we can use our resources to satisfy the high demand in the early summer, while ensuring that unavoidable costs do not cause excessive losses during the winter months when demand is low.

Given that the time series analysis is based on data specific to North America and not Beeland we should be cautious and not assume that the same level of demand or growth can be replicated. Although the market growth rate for grills is expected to be 5% in Europe for the next 5 years, North America remains a much larger market and can therefore be expected to generate a larger absolute demand for grill-cookery classes.

If we could assume that we can replicate the pattern of growth enjoyed by Udenfor, the information is useful as it will help us to plan for the resources needed over the next few years. However, while it is useful to forecast the number of classes, it would also be useful to know the average number of participants in a class. Udenfor will run a class with only one participant at a financial loss. We may not want to run loss-making classes and it would be useful to know the breakeven number of candidates per class before we commit to running GrillSkill using the same business model as Udenfor.

By its nature, time series is limited, as forecasts based on it rely on the assumption that historic data will continue into the future. This is unlikely to be true on all occasions. The most recent data used in this time series is 3 years old and may be considered out of date. Since December 2019, there have been many seismic changes to the business environment which are likely to render this time series too inaccurate to use for planning our new GrillSkill initiative.

SECTION 2

Treatment of expenditure for GrillSkill

IAS 16 states that to capitalise expenditure incurred as part of property, plant and equipment (PPE), an asset must have been created. For an asset to be created, it must be probable that the expenditure will result in future economic benefits and that the expenditure can be reliably measured. In addition, the asset must be held for more than one accounting period. Costs that are directly attributable to the asset being in a condition for use are also items that can be capitalised.

Events truck

As the events truck will be required to run the future GrillSkill classes, the purchase price of the truck and the truck refit will create future economic benefit, can be reliably measured, and will be held for more than 12 months. The import duty can also be capitalised as it is directly attributed to the use of the asset. However, the road tax is an annual charge (not more than 12 months) and therefore, cannot be capitalised.

The purchase price of the truck, refit and import duty will be included as PPE on 1 April 2023. Although we will own the truck from 1 April 2023, it will not be in a condition capable of being used for its intended purpose until it has been refitted. Therefore, we will not begin to depreciate the truck until 1 May 2023 and, for the year ending 30 June 2023, 2 months of depreciation will be charged to the statement of profit or loss as an expense.

Because the truck will need a complete refit after 5 years, we need to split the truck asset into two parts: the truck capitalised at B\$90,000 + B\$4,500 and the refit expenditure at B\$50,000. Each part will need to be depreciated based on its useful life of 10 years and 5 years, respectively. For the truck, the annual depreciation charge will be calculated as the cost (B\$90,000 + B\$4,500) less residual value (B\$5,000) divided by 10 years, and for the refit, the annual depreciation charge will be the cost of B\$50,000 divided by 5 years, assuming we use the straight-line method. The carrying amount of the asset in the statement of financial position will be reduced by the amount of depreciation charged.

Although the insurance does not qualify as a capital item, we prepare financial statements using the accruals basis. Therefore, at the accounting year end, we should prepay 9/12ths of the B\$1,500 to include as a current asset, leaving 3/12ths of the cost as an expense in the statement of profit or loss.

Grills

The grills satisfy the criteria of future economic benefit, and they are being used for more than 12 months. IAS 16 does not state explicitly how to treat an item of inventory that is recategorised as a non-current asset, but we have a reliable measurement for the grills in the form of our standard costs, which we use for our inventory valuation. Therefore, the grills should be recategorised on 1 May 2023 as PPE at the standard cost.

For the year ending 30 June 2023, the statement of profit or loss should be charged with 2 months of depreciation. The annual depreciation will be the value at which the grills were recategorised spread over the 2 years of use (assuming the scrap value is zero).

Training for all chef demonstrators

Although the training costs are necessary for the GrillSkill classes to run, they cannot be capitalised. The fact that the trained staff are freelance and are able to leave our business at any time means that these costs do not meet the definition of an asset in terms of being able to control the economic benefits expected to arise. These costs will therefore need to be expensed to the statement of profit or loss in the year ending 30 June 2023.

Multi-product profit-volume chart

What Line A indicates about the GrillSkill budget, breakeven and margin of safety

Line A starts at a loss of B\$200,000 on the y axis. This is the position if we run no classes and receive no revenues but incur fixed costs. Fixed costs will include the depreciation of the events truck and probably some manager salaries and head office costs. These costs will be incurred regardless of the number of classes run or the number of delegates in a class. The assumption underpinning Line A is that revenues and profits are earned in order of the contribution to sales (C/S) margin for each type of cookery class. For Line A, with an average of 16 delegates a class, the order is: GrillSkill Z, GrillSkill Y, GrillSkill X and finally Celebrity chef. This order is a convention of the multi-product profit-volume chart and not necessarily a reflection of the order in which we expect to deliver the classes.

If we achieve the budgeted 16 delegates a class, we will receive approximately B\$960,000 in revenue and a little over B\$350,000 in profit. The breakeven point is the point at which profit is zero or, to put it another way, where the total contribution is equal to fixed costs. For Line A, this occurs when revenue is approximately B\$270,000. This indicates a very large margin of safety as revenue would have to fall from the expected B\$960,000 to the breakeven B\$270,000 revenue before we incurred a loss. As mentioned above, it is unlikely that we would sell the classes in C/S order and if we sell in order of the (more realistic) 57% weighted average C/S instead, our breakeven point would be further to the right. This could be demonstrated by joining the first and last points on Line A, with a straight line, and would show a breakeven revenue of approximately B\$350,000. Although this indicates a lower margin of safety than line A, it would still indicate that the GrillSkill classes are relatively low risk.

The reasons for, and implications of, the differences between lines A and B.

Line B represents the revenues and profits we are likely to achieve if the number of delegates in a class falls to 12. It is clear from the graph that Line B is in a less favourable position than line A, as the total revenue has fallen to approximately B\$720,000 and the total profit has fallen to B\$110,000. The breakeven point is higher than it is for Line A which, when combined with the lower total revenue, means that the margin of safety has worsened considerably (it is now only B\$720,000-B\$320,000).

The fixed cost remains unchanged, as is to be expected, as fixed costs will not change for either the number of classes or the number of delegates in a class. It should be noted that although the average number of delegates in a class has reduced from 16 to 12 (a high reduction proportionately) the classes still make a profit. This is because the fixed costs are relatively low. The C/S order has not changed, but each individual C/S is lower than it is when we assume an average of 16 delegates a class. The reason for this is because while the variable cost for a class has not changed the revenue for a class has reduced. Although each delegate pays the same class fee, less delegates per class mean that class revenues are lower and therefore, the total class contribution is lower. This is evident as the line segments which represent each class is less steep than with 16 delegates.

The graph indicates that profit actually falls in total when the final class, the celebrity chef class, is added to the line. This is because the celebrity chef class has a negative C/S ratio. The C/S ratio for the celebrity chef class is significantly lower than for other classes because the chef fees are so high. In effect, the variable costs are fixed cost within each class, and the high chef fee means that lower delegate numbers do not generate enough revenue to cover the class costs. However, the SMT is confident that the celebrity chefs' classes will generate interest in all the proposed classes and a negative contribution may be accepted if this is the case.

SECTION 3

Review of potential suppliers' management of working capital

Probity

This company shows some classic signs of overtrading (undercapitalisation): a sharp increase in sales revenue and an overreliance on short-term finance. In addition, undercapitalisation is more prevalent in young companies, and Probity has only been in business for 2 years. The working capital cycle indicates that money is being received into this company at a slower rate than it is going out, as the receivable days are lower than the payable days. If the payables stop supplying Probity, there is less than 2 weeks of inventory and therefore a risk of being unable to ensure supply. This is the only company of the three with an overdraft, and an over-reliance on this overdraft indicates that Probity is not securely financed. I do not consider Probity a suitable supplier.

ThermStik

This company appears to be pursuing an aggressive working capital policy, as it has the shortest receivable days and second-longest payable days of the three suppliers and carries only 2 weeks' inventories. This means that it collects debts from its customers before paying suppliers. If the payable days are outside of the supplier terms, this approach is unethical and something that we as a company will not want to be associated with. Also, there is a risk that ThermStik's supplier will refuse to supply them, which in turn may disrupt ThermStik's supply to us. This company has the lowest growth rate, which may indicate that customers do not like the short credit terms as indeed we would not. Finally, as the smallest company of the three, it is possible that ThermStik will not be able to satisfy all of our future demands. I do not consider this a suitable company to supply us.

Mercury

This company appears to have the most moderate approach to working capital management of the three. The receivable days appear reasonable, although we do not have any information about any payment terms, and we could certainly consider 40 days acceptable to us. The payables are at a similar level to receivables and do not seem high enough to alienate the suppliers and cause disruptions to the manufacturing process. While inventory days are the highest of the three suppliers, this is to be expected if the others appear to be either overtrading or employing an aggressive working capital policy. Mercury is the largest of the three potential suppliers and is the most able to supply us when we increase our order volume. I believe Mercury is the most suitable of the three companies to supply us with the physical probes.

Costs of the smartphone app versus the physical probes

Most of the difference in the costs between the smartphone app and the probe is due to the nature of the product; one has a physical dimension, and the other does not.

The probe will be a variable cost to FireWorks, as we will negotiate a price for each unit and the more we buy the greater the cost because total cost will be linked to volume. When we eventually supply temperature probes as part of our accessory range, it will be classified as a raw material cost in the same way the other bought-in components are. By contrast, once we have developed it, the variable cost of the smartphone app will be almost zero. In effect, the smartphone app can be replicated many times over for virtually additional cost.

The majority of the costs of the smartphone app will be incurred at the development and launch stage, in effect upfront costs. We will work with the app development company and be charged a fee for the app to be produced. This fee will be applicable if we provide one probe or a million and therefore the cost to produce our smartphone app will be fixed in nature. As most of the app cost is fixed in nature, additional complications arise when we try to calculate unit costs, because in order to absorb a fixed cost we will need an idea of how long the app will be in operation and how many probes it will be paired with. By contrast, the probes will incur little, if any, upfront cost beyond the cost of financing and maintaining adequate inventory levels.

In addition to the pre-launch cost of the smartphone app, there are likely to be ongoing costs: technological upgrades to keep pace with the smartphones, costs to manage and update data, such as new features and recipes, customer details and support and maintenance costs. Most of these costs will also be fixed in nature. It is unlikely that the physical probes will require any such ongoing costs. However, it is possible that the probe manufacturer may upgrade the product and pass the cost on to FireWorks by charging a higher price.

Relevant information for the decision of whether to give party-launch gifts

For a cost to be relevant for decision making, it has to change as a result of the decision. Any costs that do not change as a result of the decision should not be considered. Therefore, all costs relevant to a decision should be incremental, cash and incurred in the future.

Cooler bags: The relevant cost for these bags is zero. These bags were purchased in error and the fact that we paid B\$7 for them is a past cost that will not change if we give launch gifts or not. The B\$8 current cost is also irrelevant to the decision, as we will not be replacing the bags even if we do use them as launch-party gifts.

Bag contents: The relevant cost for these items is also probably zero. As the items are customised, they are not inventory items and will not be returnable. As all items have already been ordered, we should consider these costs as committed. This means that they will have to be paid regardless of whether or not we give the launch gifts to the party guests.

However, although unlikely due to the highly customised nature of these items, it may be possible to sell these items as souvenirs at future courses. If this is the case, the expected sales revenue should be treated as an opportunity cost.

Labour: As the bags have not yet been assembled and packed, costs will only be incurred if we decide to give the gifts. The relevant cost will be the future cost incurred. The packing department will spend 30 hours in total making the launch gifts presentable, and the relevant cost per hour will be B\$17 x 1.5. The overtime premium is relevant as it is a direct cost to this task and will only be incurred if we decide to give launch-party gifts.

Grills: There is a relevant cost to these items, as the cost will only be incurred if we decide to give the launch gifts, which include the “golden ticket.” However, the relevant cost per grill is not the B\$1,100 selling price but the variable cost of production which for a large Firecracker grill is B\$297.25+B\$32.91+B\$14.62. This variable cost of production is the future cash cost of replacing the grills that we give away, as this is the value of the future incremental cash costs to replace the grills (assuming we have the spare production capacity and that no sales would be lost).

SECTION 4

KPIs

The first KPI indicates that we have exceeded our target, as it means that there were more delegates, on average, in each class than expected. Full classes will earn more sales revenue than half-full classes, but incur the same, or similar, levels of costs: the host chef's salary, the time to set up the events truck, the site fee and so on. This has also been explained (below) as a reason for the sales revenue variances. This KPI is useful as it will monitor one of the most important reasons for GrillSkill's financial success: how well subscribed classes are.

The second KPI also indicates that we have exceeded our target as more delegates than expected are choosing to attend more than one class. This is a measure of customer satisfaction and, as the percentage achieved is more than double the target, it means that the classes are proving to deliver what customers want to learn, in a way that they want to learn it. It is an accepted fact that it is more expensive to attract new customers than it is to retain existing ones, so this KPI indicates not only good customer satisfaction with GrillSkill classes, but also, potentially lower marketing costs in the future.

The third KPI is a measure of resource utilization and shows that, once again, we have exceeded the target, albeit by only a tiny amount. The fact that we run more than one class a day during the summer months means that we utilise assets, such as the truck, more efficiently. This KPI is better than expected because we have managed to run more classes than budgeted (111 v 109). The success here is due, at least in part, to the extra GrillSkill X classes that we chose to run during the quarter.

Sales variances

Sales quantity variance B\$3,133 F

The sales quantity variance is the difference of the budgeted classes and the actual classes in the budgeted mix valued at the standard profit for each type of class. It shows the effect on profit of selling a different volume at a budgeted mix, than the budgeted sales volume. This variance is favourable, meaning we generated more profit than budgeted because we actually sold 111 GrillSkill classes instead of the 109 classes budgeted. We ran fewer Celebrity Chef classes than expected in the quarter, as we had to cancel three of Olivia James' classes. This was compensated for by the five additional GrillSkill X classes. While the cancellation was unavoidable, the increase in demand necessitating the additional classes may have been due to the glowing magazine reviews.

Sales mix variance B\$2,832 A

The sales mix variance shows that the actual number of GrillSkill classes sold earned a lower profit than if they had been sold in the budgeted mix. The mix is adverse because we sold relatively more of the GrillSkill lower profit classes than budgeted.

From the information table, we can see that GrillSkill X has the lowest standard profit of all classes and that we sold proportionately more of these classes than budgeted. This skewed the mix and resulted in a lower profit being generated than would have been the case had the classes been sold in the budgeted mix. The reason for selling proportionately more GrillSkill X than budgeted is not clear, but perhaps some were arranged to substitute for the cancelled celebrity chef classes.

Sales price variance B\$19,150 F

The sales revenue variance shows the actual amount of revenue generated by GrillSkill classes compared to the budgeted revenue expected from the actual number of classes that were run. For GrillSkill classes, the sales revenue is made up of two elements: the price each delegate pays for a class and the number of delegates that have paid for a class. As all delegates paid the standard fee for every class, the favourable variances must be due to the fact that, on average, all classes had more delegates than was originally budgeted. This is evidenced by the first KPI and is probably due to the glowing press coverage in July, increasing demand for the classes or possibly setting the standard class size too low in the original budget.

Marginal and absorption costing

In the absorption costing statement, an element of fixed overhead is included in the cost of sales for each class we ran. This was determined by a predetermined absorption rate, calculated by dividing the budgeted fixed overhead by the budgeted absorption basis, in our case the number of classes. Either of these budgets can be inaccurate, and this can cause an under or over absorption of fixed overhead. The over absorption is the difference between the fixed overhead incurred and the fixed overhead absorbed. In July, we absorbed B\$15,084 more fixed overhead than the B\$16,800 actually incurred because we are a seasonal business. As most classes will occur in the summer months and we absorb fixed overhead based on the number of classes, it follows that we will absorb more fixed overhead at these times. However, as our fixed overhead is incurred at a constant monthly rate there is a mismatch between the absorbed fixed overheads and the actual fixed overheads. If our budgeted figures are proved to be exactly the same as the actual figures (in terms of annual fixed overhead cost and several classes) the amount absorbed will equal the amount incurred over a year.

The profit statements produced using absorption costing and marginal costing will have the same gross profit because both are compiled using the same data: the actual number of classes, the actual prices charged and the total variable and fixed costs. The only reason that the profit figures could differ would be if we had finished the goods inventory. The inventory would absorb fixed costs and thereby charge those costs against the profits of a different period, causing a difference from marginal costing where the fixed costs are deemed to be a period cost and immediately charged against that period's profits. GrillSkill is a service business, and we cannot hold

inventory of an intangible. Therefore, for this part of the FireWorks business, the profits will always be the same under both methods.

OPERATIONAL CASE STUDY

NOVEMBER 2022 & FEBRUARY 2023

EXAM ANSWERS

Variant 6

These answers have been provided by CIMA for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

The advantages and disadvantages of using participative budgeting in Geeland

Participation refers to the extent that managers can influence the figures that are incorporated into their budgets. Currently, managers at FireWorks have only limited involvement in the budget setting as we employ a top-down approach.

The participative budgeting approach should produce more accurate budgets. The sales budget is likely to be the principal budget factor (the factor that limits the activities of FireWorks, which therefore must be the starting point of the budget setting process) and any inaccuracies in it will cause all the functional budgets. For example, purchasing and production derived from it to also be inaccurate. Therefore, it makes sense that the sales budget is constructed by the key sales managers located in Geeland because these managers will have a much greater understanding of the likely customer demand and buying behaviour in this new market. The managers already located in Geeland are the experts in this new market. This is evidenced by the Sales Manager who informed Savita Sharma, Finance Manager, of the likely market size. Similarly, those managers who have been establishing the best site for the distribution centre and researching different courier companies will already understand the day-to-day logistics, supplier and staffing issues and associated costs better than the most senior managers in Beeland.

The participative budgeting approach should motivate the budget holders to achieve their budget. As the key managers will be in Geeland for at least 3 years and will be budget holders, responsible for their own areas, participation in the budget setting process is likely to ensure a strong buy-in or ownership of the budget. Budget holders are more likely to work to succeed with their own budget than one they believe to be poorly conceived or unrealistic as is likely to be the case with one imposed by the SMT. Thus, participation in the budget setting process is likely to motivate, resulting in better job satisfaction and bonuses.

There are disadvantages to participative budget setting: it can take longer than a top-down approach because the managers in Geeland may not yet have the skills necessary to build an accurate budget or the time to coordinate with other managers. In addition, Geeland's managers, immersed as they are with their day-to-day challenges, probably lack the strategic vision that the SMT has. Thus, the budgets may want a clear purpose and direction.

When the achievement of budget targets is linked to financial reward, as with the bonus scheme proposed by the SMT, there may be a tendency to build slack into the budget. Managers may be tempted to deliberately underestimate revenues and/or overestimate costs to set themselves targets that can be easily achieved. If this happens, the budgets set by the Geeland managers will be less accurate and useful than a top-down budget.

The role of the sales forecasts for planning and coordination of production

Our sales forecast will provide the basis for all the functional budgets, as sales are likely to be the principal budget factor. When we have a sales forecast, we can plan which and how many grills to manufacture. As sales volumes in Geeland are believed to be in excess of 10% of our total sales volume by the end of the first year's trading, we need to increase production significantly. This will require careful consideration of the resources (cash, production capacity, materials and so on) we have, how to utilize them and whether or when to acquire more. These are complicated issues and will require us to organize and plan. If we can anticipate issues in advance, we will be able to find a better solution than if we are reactive.

Throughout FireWorks, we have budget holders who are responsible for their areas of operations. If we know the sales volume required for the Geeland operations in advance, we can let these budget holders know what will be expected of them in the period ahead. A demand for a Firecracker grill in Geeland in August requires the procurement department in Beeland to order more Frit in May. Without the sales forecast there is no forewarning to enable this systematic coordination of departments.

We do not expect the sales forecast to be 100% accurate. They are a starting point for our planning and, as time passes, we will be able to adapt and change our plans. However, the Sales Manager who spoke to Savita Sharma probably has a better understanding of the market than most to be so confident that the market will account for 10% of total sales volume within a year.

Answers to Schedule 1 questions

Question 1

FireWorks currently uses absorption costing, and it is true that when finished goods inventories increase over a period, reported profit will be higher in that period than if the inventory level is reduced or remained at the same level. The reason for this is that the inventory is valued at full cost, including an element of fixed cost, which is not released to the profit or loss account until the inventory is sold. Therefore, building

inventory delays a period's absorbed fixed production cost from being charged to profit until a future period.

In our business, we have high seasonality, and we deliberately increase inventory levels during the colder months, when customer demand for grills is low. This position switches during the summer months when sales demand exceeds production levels and inventory levels decrease. The fixed production costs held in the finished goods closing inventory during the colder months are released when the grills are actually sold. Over a year, FireWorks opening and closing inventories are similar. For example, for the year ended 30 June 2022, inventory values increased by only 5.5%. However, we produce more than we sell in colder months so that we can satisfy demand during the warmer months and not because it gives an inflated profit figure.

It is not practical or good business sense to increase inventory levels every period, as the cost of storing, protecting and financing it would become very expensive. If we continued to increase our finished goods inventory level, eventually it would become obsolete, and we would have to sell it at a low selling price or even scrap it. If this were the case it would reduce profit. In the longer term, we would not be allowed to value our inventory at full cost in the financial statements, as IAS2 states that inventories should be held in the "normal course of business" and building inventory as suggested is not our normal course of business.

In the long-term, building inventory to artificially inflate profit does not work. It is better to focus on selling the grills than on producing them to sit in inventory.

Question 2

As the sales volume in Geeland is expected to create a significant demand for our production facility by the end of the year, the fixed production costs may increase immediately. For, example, we may have to work extra shifts in one or more of our production departments, and this may necessitate recruiting more supervisors. We may experience many instances of stepped fixed production costs from the start of our trading in Geeland, and therefore the statement that fixed production costs will not increase is not necessarily true, even in the short term. As we assume that Geeland will account for at least 10% of our total sales by this time next year, fixed costs will almost certainly increase in the longer term.

Variable production cost is not the only variable cost of selling grills in Geeland. Variable costs should include administration and selling variable costs as well as production variable costs. In addition to the existing variable costs, we may incur new variable costs specific to the Geeland market. For example, each grill may be subject to a non-refundable import tax as it crosses the border into Geeland. Failure to consider all variable costs could potentially lead to a selling price that results in a negative contribution and this would reduce profit.

Even if we assume that the fixed production costs do not change as a result of the increased demand, setting the selling price at full variable cost could still reduce overall profit. This is because we will now be incurring additional fixed costs specific to Geeland that need to be recovered. These costs include the cost of the distribution

centre, the regional head-office and staff salaries. When using marginal costing to set selling prices, fixed costs are not forgotten. A mark-up is usually added to the total variable costs to ensure that the fixed costs are covered by the expected contribution.

For the reasons stated above, from a cost perspective, if we used variable production cost as a selling price, we would sell below variable cost and ignore incremental fixed costs. Therefore, this selling price would reduce profit and is not advisable.

Question 3

When we have identified the full marginal cost, we can use it as a baseline on which to consider setting selling prices in Geeland. Knowing the baseline is useful as we will know how far we can use price to react to competitors and customer demand in this new market. Being able to set a relatively low price in a new market may ensure that the division gets established and develops a strong core business quicker than it would if it had to the higher base price. As this is a new market, this may be a reasonable strategy for the SMT to consider. However, we must be aware that, in the longer term, all fixed costs must be covered, and we may need to increase prices to achieve this, which may prove difficult.

The danger, already identified, of using marginal cost to determine selling price is that the mark-up, intended in part, to help ensure that contribution is greater than fixed cost, may be insufficient as it is arguably less accurate and considered than other methods. Any misjudgment could mean that we do not cover the fixed costs.

SECTION 2

Decision about the courier

Maximax

A decision maker that uses the maximax criterion is an optimist who would assume that demand would be high. Using this approach, the option chosen will be the one that offers to minimise the cost per delivery when demand is high. The cost per delivery for each courier, for this market condition, are B\$2.55 for Courier A, B\$2.09 for Courier B and B\$3.20 for Courier C. Therefore, under this criterion, we will choose Courier B, as this gives us the lowest cost per delivery when demand is high.

Maximin

A decision maker that uses the maximin criterion is a pessimist who will assume that demand will be low. Using this approach, the supplier that minimises the cost when demand is low will be selected. At low demand, the cost per delivery for each of the three suppliers is: B\$3.80 for Courier A, B\$5.57 for Courier B and B\$3.20 for Courier C. Therefore, under this criterion, we will choose Courier C, as this is the lowest of the three when demand is low.

Minimax regret

A decision maker that uses the minimax regret criterion is often referred to as a “bad loser.” The decision is made by firstly identifying the courier that minimises the cost at each of the three market conditions. The differential between the lowest cost and the other two at each level of demand represents the regret of having made a bad choice.

If the market demand is low, Courier C has the lowest cost and so the regret of choosing Courier C is B\$0. Courier A has a regret of B\$0.60 (B\$3.80-B\$3.20), and Courier B has a regret of B\$2.37 (B\$5.57-B\$3.20). After we have completed the regret table, we then choose the supplier that minimises the maximum regret (the best of the worst). So, the maximum regrets for each courier are B\$0.60 for Courier A, B\$2.37 for Courier B and B\$1.11 for Courier C. Therefore, under this criterion, we will choose Courier A, as this company has the minimum of the maximum regrets of the three couriers.

Key performance indicators for the courier service

% Of on-time deliveries each month: this can be calculated by dividing the deliveries made within the agreed 2-hour time slot each month by the total number of deliveries made during the month. This is a vital measure of the courier’s quality of service and one that will be valued by our customers. Our customers may arrange to stay at home, especially to take delivery of their grill, and if the delivery is not made when agreed, they are likely to be frustrated and unhappy. Customers will hold us responsible for late delivery, as they placed the order with us and if they judge us as unreliable, our reputation in this new market will suffer. Therefore, we need a courier that can achieve a high percentage of deliveries on time.

% Of imperfect deliveries each month: this can be calculated by dividing the total number of imperfect deliveries made each month by the total number of deliveries made during the month. An imperfect delivery contains errors; for example, delivery to the wrong address or products delivered in a damaged condition. Each imperfect delivery is not only a cause of customer dissatisfaction but will also take us time to investigate and rectify. This is also a measure of courier quality and the lower this percentage the better.

% Of monthly deliveries made by electric vehicles by the courier to FireWorks each month: this can be calculated by dividing the number of deliveries by electric vehicles this month by the total number of deliveries. Our ethos is concerned with sustainability, and we have a stated aim to be carbon neutral in Beeland. In Beeland, we strive to improve our supply chain as well as our in-house activities, and we will probably want to apply the same ethos in Geeland. Transport has a significant effect on greenhouse gas emissions, and a higher proportion of deliveries by electric vehicles will help to keep these as low as possible.

What-if analysis

The spreadsheet revises our budget based on a series of variations. One or more variables can be changed at a time to determine the impact on budgeted profit. In this case, the scenarios are based on changes to the selling price and marketing spend.

Scenario 1 shows what will happen to profit if we assume that a 5% increase in selling price results in a 10% decrease in the volume of grills sold. In this case, the overall revenue would fall by 5.5%, as the 10% reduction in volume will have a greater impact on revenue than the 5% increase in selling price. This shows that the market in Geeland is relatively price sensitive. Variable costs would fall by 10%, as they will vary with sales volume, but overall, the contribution would reduce by 2.69%. As the fixed costs would remain unchanged, the profit would also reduce, but by a much larger 50.25%. The percentage reduction in profit would be higher than the reduction in contribution because of relatively high operational gearing.

Scenario 2 shows what will happen to profit if we assume that a 10% increase in marketing spend results in a 7% increase in sales volume. As the selling prices and variable cost per unit do not change with this variation in budget, the revenue, variable costs and contribution would all increase at the same rate. The fixed costs would increase by 5.35% as marketing costs are an element of these total fixed costs. However, as the absolute increase in fixed costs is less than the absolute increase in contribution, this variation would result in an increase in profit of 36.25%. Overall, the analysis shows that increasing the marketing spend by 10% would be the better of the two options as it would result in an increase in budgeted profit.

What-if limitations

One of the limitations of this approach is that it takes no account of the probability of the change happening, it just assumes that a 10% increase in marketing spend will

result in a 7% increase in contribution. As this is a new market, with high uncertainty regarding many variables contained within the budget, this assumption is by no means certain or even likely.

Another limitation is that variables outside of the “what-if” scenario assumptions are not affected. For example, we assume that a 5% increase in selling price will affect total variable costs solely due to the associated volume change. It does not allow for the variable cost per unit to increase due to a reduction in discounts or dis-economies of scale. For example, Table 1 shows that courier costs per grill can increase if demand is lower if either Courier A or Courier B is selected.

SECTION 3

Inventory valuation in the financial statements

IAS 10: Events After the Reporting Period

IAS 10 contains requirements for when the impact of events after the end of the reporting period should be adjusted in the financial statements. Events can be assessed as adjusting events or non-adjusting events. Adjusting events are those that arise after the end of an accounting period that provide evidence of conditions existing at the end of the reporting period.

In this instance, the event is the discovery of faults in the enamel of two types of our charcoal grill. As we know that these grills with enamel faults were in inventory at our year end of 30 June 2023, the discovery of the fault is an adjusting event, because this gives evidence of the net realisable value of this inventory. As the financial statements have yet to be authorised and filed, we will need to adjust the value of inventory in respect of these grills at 30 June 2023. Therefore, we need to establish the correct carrying value of the inventory in question.

IAS2: Inventories

The fundamental principle of IAS 2 is that inventory should be valued in the financial statements at the lower of cost and net realisable value (NRV).

The grills that have faults in the enamel have been included in the financial statements for the year ended 30 June 2023 at cost. This cost will include all labour and material cost plus the proportion of the variable and fixed overheads that we incur in the normal course of business. In short, all costs incurred in bringing the inventories to their present location and condition.

The NRV of the grills is the estimated selling price less the estimated costs of completion and the estimated costs necessary to make the sale. If the plan to sell the grills via the retailer of sub-standard branded goods goes ahead, the NRV will be 50% of the normal retailer price less the B\$30 per grill commission. If the SMT chooses to scrap the grills instead of selling via the retailer the NRV will be zero.

Whichever route the SMT decides on, it is likely that the NRV of the faulty grills is less than cost. Therefore, the value of the inventory in the financial statements should be written down to the NRV. If the SMT decides to scrap the grills, it should be noted that the salvaged parts will be returned to the raw materials inventory and the cost of these can be included in the financial statements at cost.

Linear programming graph

The area of the graph which shows all the combinations of possible production of the two types of grills, Sparkler and Spinner, is called the feasible region. On the graph, this is depicted within the area to the right of the demand constraint for Sparkler, above the demand constraint for Spinner grills and below the two resource constraints. The

feasible region satisfies the production resource constraints, which are assembly labour hours and enameling machine hours, and the two minimum demand constraints acceptable to the important retail customer in Geeland.

The ISO-contribution line represents the contributions of Sparkler and Spinner grills which would earn the same levels of the total contribution. If we move this line as far to the right as possible, whilst remaining within the feasible region, we will arrive at the point where the assembly hours constraint and minimum demand constraint for sparkler grills cross. This is the optimal solution, the point at which will earn the maximum contribution possible, given the constraints. Therefore, to maximise contribution, we should make 50 Sparklers and 94 Spinner grills.

Although we can maximise contribution and therefore profits in the short term by making 50 Sparkler and 94 Spinner grills, this does not consider market considerations. As a relatively new company in Geeland, we do not want to risk alienating customers. If we make the volume of grills that maximises contribution only one retail customer in Geeland will receive Sparkler grills on time. It may be worth asking the sales team in Geeland their opinion of the best quantities.

Assembly overtime hours and appropriate overtime premium

As the assembly hours are a binding constraint it would be worth acquiring more as each extra hour will generate an additional contribution. The availability of more assembly hours will have the effect of moving the Assembly constraint line to the right, and it would be worth paying for overtime until the line met the enameling constraint line. At this point, the enameling machine hours become the binding constraint and additional assembly hours will not increase production and no more should be acquired. From the graph, it appears that we should only acquire enough assembly hours to produce 6 (100-94) Spinner grills.

The shadow price for assembly hours is the additional contribution that each hour of assembly labour can generate. As long as the assembly hours constraint is binding, paying an overtime premium of any amount up to the value of the shadow price is financially beneficial. If a constraint is non-binding, the shadow price is zero.

SECTION 4

Sales variance report for Geeland August 2023

Sales price variances

A sales price variance shows the result of selling grills at a higher or lower price than standard. While the total sales price variance is B\$11,590 adverse, both the Sparkler and Spinner grills variances are favourable, indicating that, on average, these models were sold at a higher selling price than standard. This may be due to the sales managers no longer being allowed to grant introductory discounts to customers. As demand in Geeland has been much higher than expected, perhaps senior managers believe the discount is no longer required to build market share. However, the sales managers feel that potential new customers were lost as a result of this action and the withdrawal of this discount may have contributed to the adverse total sales volume profit variance (see below). The Rocket price variance is B\$16,060A, meaning that the actual grills sold during August were priced, on average, lower than the standard price. This variance is probably a result of the company-wide discount offered to all retail customers. While this discount was not a result of Geeland managers' actions, it may help account for the favourable volume variance (see below) as lower prices often increase demand.

Sales volume profit variance

The total variance is B\$1,624 adverse and this shows the impact on profit of selling a lower volume of grills compared to the budget. As can be seen from the supporting information, the sales managers sold 3,212 grills in total, which is less than the 3,350 budgeted. The individual variances show that more Rocket grills were sold than budgeted (resulting in a favourable variance) but, disappointingly, sales of the Spinner and Sparkler grills did not achieve the budgeted sales volume, and therefore, we have adverse volume variances.

The probable reason for the favourable Rocket variance is the company-wide discount offered to retailers (see above), as lower selling prices often result in higher sales volumes. Demand for Rocket grills could also have been influenced by the shortage of Sparkler grills, as customers may have "traded up". The most obvious reason for the adverse variances is the stock-outs caused by the lack of deliveries from Beeland. The sales manager annotation suggests that if deliveries had been as planned, sales of the Sparkler model would have been at least 300 units more and therefore would have exceeded the budget. However, the loss of the introductory discounts may also have contributed to this variance as, according to the Sales managers' annotations, new customer business was not secured.

The volume variance has been further analysed into mix and quantity, which is appropriate here as the different models seem to be a substitute for each other.

Sales mix profit variance

This variance is B\$7,420F in total and shows the effect on profit of the actual grills sold compared to the total grills sold in budgeted proportion. A favourable variance indicates that there was a proportionately higher level of relatively high profit grills sold and/or a proportionately lower level of relatively low profit grills sold.

The figures from the table show that we sold significantly more Rocket grills (with relatively high unit profit) and fewer Sparkler grills (with relatively low unit profit). From this, we can conclude that the mix has been skewed favourably. This is probably due to the reasons discussed above: the unavailability of the Spinner grills causing customers to “trade up” and the reduced selling price of the rocket increasing demand for this type of grill.

Sales quantity profit variance

This variance is B\$9,044 adverse. The sales quantity variance is the difference of the budgeted sales and the actual sales in the budgeted mix valued at the standard profit for each type of grill. It shows the effect on profit of selling a different volume at a budgeted mix, than the budgeted sales volume. We generated less profit than budgeted, because we actually sold 3,212 Grills instead of the 3,350 budgeted.

Planning and operational variances – Advantages and disadvantages

Planning variances provide some useful information for managers on the accuracy of their planning and could help to improve the accuracy of future standards and budgets. As Geeland is our first ever expansion into a different country, it has probably been difficult to set accurate sales volume budgets, as we did not have a detailed understanding of customer preferences. Experience in Geeland may prove transferrable if FireWorks choose to expand into other countries in the future.

Standards are usually based on the anticipated business environment. If the actual conditions faced by operational sales managers are significantly different, then the standards should be changed. This means that operational variances are a more reliable measure of actual performance, as they are based on those factors the sales managers can control. This is particularly important if bonus payment is linked to performance against a standard, as is the case with the Geeland sales managers. The sales managers consider the August variances unfair because the non-delivery of 300 sparkler grills reduced their bonus payment. The sales managers probably consider that securing the order was evidence of their performance and the cancelling of the order due to production issues that were outside of their responsibility and control. Therefore, separating the sales volume profit variance into the operational and planning element would be perceived as fair.

Splitting the August variances into planning and operational elements is not clear-cut in all instances. Although it is clear that the decision to withdraw the introductory discount and to offer a company-wide discount for Rocket grills was outside of the sales managers' control, both decisions will probably have had an effect on the volume of grills sold (and therefore, the bonuses paid). This effect that the discounts had on volumes sold is difficult to quantify. Therefore, any attempt to separate the planning

and operational is likely to be subjective and this could create demotivation and distrust between the sales managers and senior management.

Management of receivables

Factoring benefits and drawbacks

A factoring company would take over the responsibility for managing the Geeland receivables ledger on our behalf. The main benefits of this are that they are experts in credit control and are also familiar with the culture in Geeland. This means that they would probably recover monies faster than we do at present. A significant benefit of this option is that it would relieve our credit control department of the stress of the extra workload in a market they are unfamiliar with.

In addition, if the Geeland business continues to grow, this option is the most flexible and easy to expand. This is also a good point to consider given the seasonal nature of our business. We might incur much more expense than we do at present as using a factoring company is expensive. Also, there is always the danger that we lose the customer relationship as we lose control of the receivables ledger and the day-to-day dealings with them. However, our credit control department does not seem to have established a good relationship with the retail customers and exercises little control over when they pay, so the impact of this disadvantage is unlikely to be significant.

A factoring company's agreement with us could be "without recourse," meaning that we would not bear the risk of irrecoverable debt. This could be particularly useful in this circumstance as, because we are new to it, we have limited knowledge of the market. Our credit control department would avoid having to learn all the formal and legal procedures for recovering overdue debt in Geeland. However, a "without recourse" agreement is more expensive than a "with recourse" agreement.

A factoring company could advance us a proportion of the value of invoices as they are raised. Amounts vary, but it is reasonable to assume that we could receive 70% or more of the value of our invoices 72 days earlier than we do now. This would be a tremendous boost to our cashflow and liquidity. However, this advance would incur a high finance cost and it is doubtful that we would need this aspect of the service.

Prompt payment discount benefits and drawbacks

If we offer a prompt payment discount to the retail customers in Geeland, it would encourage some of them to pay earlier. This would help to reduce the receivable days, which in turn would improve the timing of our cash inflow and perhaps reduce the risk of irrecoverable debt. However, it is unlikely that all customers would take advantage of our offer, in fact, we have no information to indicate how many would. In addition, this is an additional cost to us, as offering even 1% for payment within 7 days is likely to be a significant expense.

While this option has some benefits, it does not address the underlying management issues. Our credit control department is at present unable to manage the workload that the additional retail customers in Geeland have caused. The sales managers have

not had time to help and, as they receive a bonus based on volume and no authority to reduce prices, may even view late payment as a benefit that they can offer customers. Offering a prompt payment discount may increase the workload further as there will be more to monitor and possibly more transactions to raise when the discount is disallowed.

As the business in Geeland is growing rapidly and is as seasonal as our existing business, employing a factor company seems to be the better option, as the factor company will be able to grow with the increase in credit sales, while guaranteeing a reliable cashflow.

Operational Level Case Study – Examiner’s report

November 2022 – February 2023 exam session

This document should be read in conjunction with the examiner’s suggested answers and marking guidance.

General comments

The OCS examinations for November 2022 and February 2023 were based on FireWorks, a company that designs, manufactures and sells a range of outdoor grills. The company is based in Beeland, a country in Europe which has the B\$ as its currency. Most of the company’s sales are to customers in Beeland. FireWorks does not operate its own retail outlets. In 2021, FireWorks sales volumes were split: 68% through retailers in Beeland, 20% direct to customers in Beeland through the FireWorks website and 12% to third-party agents based in other countries. In the year to 30 June 2022, the company’s revenue was B\$76.5 million, gross profit was B\$32.2 million and profit before tax was B\$6.9 million. During that year, the company sold 192,500 grills and, on 30 June 2022, the company had 316 employees.

Six variants were written based on FireWorks. The focus of each variant was as follows:

- Variant 1: Expansion of the Production Facility
- Variant 2: Launch of a new portable gas grill range
- Variant 3: Introduction of new technology in grills
- Variant 4: Expansion of the Production Facility and launch of a new model
- Variant 5: Development and launch of grill cookery courses
- Variant 6: Expansion of the sales market into a new country

Each variant was based on the OCS blueprint and covered all core activities in accordance with the weightings prescribed. A levels-based approach was used for marking candidate answers. Each variant consisted of four tasks and each of these tasks was broken down into between two and four sub-tasks. Each sub-task was then broken down into between one and five traits for marking. For each trait, there was a detailed marking guide which split the total mark available into three levels: level 1, level 2 and level 3. It was also possible to achieve a score of zero for a trait if there was no rewardable material.

As is usually the case, to achieve a level 3 on a trait, it was expected that a candidate would demonstrate good technical understanding of the topic being tested, through clear and comprehensive explanation, and apply this technical understanding to the FireWorks business and the particular scenario within the task.

Again, as is usually the case, if a candidate scored only at a level 1 on a trait, it is likely that they did some or all of the following:

- Demonstrated some technical understanding, but with gaps in knowledge.
- Identified issues and points rather than explained.
- Explained issues too briefly or with a lack of clarity.
- Failed to relate their answer to the task scenario and the specifics of FireWorks.

It must be stressed that demonstrating good technical understanding is not enough on its own to pass. Candidates need to demonstrate technical understanding in the context of the scenario and the particulars of the issue being addressed. Information given to candidates as part of the task is there for a reason and should be, as far as possible, incorporated into answers, along with relevant information from the pre-seen. Application to the scenario is key to achieving high level 2 and level 3 scores. Clearly, where there are gaps in knowledge, application is not possible and therefore the importance of candidates ensuring that their knowledge base is complete needs to be stressed.

One other area worthy of mention is candidates' ability to explain. At the operational level, many of the tasks require explanation and, to achieve high level 2 and level 3, it is expected that this will be clear and comprehensive. It should also be an explanation or justification rather than a description, identification or simple statement.

Candidate Performance

Candidate performance was more varied than in the previous session. There were a sizeable number of poor scripts, where candidates attempted all parts of the tasks but failed to score more than 20 marks due to a lack of technical understanding. These candidates appeared to be completely unprepared for this exam. At the other extreme, there were some excellent high scoring answers where candidates demonstrated technical understanding in an applied way, by fully utilising the information given in the pre-seen and the unseen materials. These candidates gave well-structured answers, where explanations were clear and comprehensive. The vast majority of candidates though were in the mid-range, either because some or all of their task answers lacked: technical understanding in the topic area, application to the scenario and/or clarity and depth.

Specific topic areas where many candidates demonstrated good technical understanding (and usually good application) included relevant costing, IAS 16, IAS 10, IAS 2, beyond budgeting, EOQ, the CGMA cost transformation model, basic variances (raw materials, direct labour and sales price) and review of working capital ratios. There were, however, a number of topic areas where candidates

demonstrated a lack of technical understanding. These included variable and fixed overhead variances, sales mix and quantity variances, linear programming, impairment and the tax treatment of transactions. In addition, there were several topic areas where candidates were able to demonstrate general technical understanding but failed to give an answer that was applied to the context of the case. This included topics such as activity based costing, activity based budgeting, zero based budgeting and factors to consider when making decisions. Finally, there were a few topic areas where, in this session, candidate performance was worse than in previous sessions. This included IFRS 16 (leasing), decision making with uncertainty (maximax, maximin, minmax regret), decision making with risk (expected value, coefficient of variation and risk attitudes) and key performance indicators (due to a lack of SMART measures being given and a lack of justification).

There continues to be a lack of explanation or justification in some of the tasks, especially in relation to financial reporting tasks on IAS 16, IFRS 5 and IFRS16. Remember, an explanation requires more than a short sentence on a point or simple identification of a rule in a financial reporting standard. Application to the specifics of the scenario and the situation at hand is also lacking at times.

With respect to the core activities, candidate performance was typically best for F (working capital), C (performance evaluation) and D (financial reporting). The less competent core activities appeared to be A (costing), B (budgeting) and E (decision making), but this often depended on the topic area that the task was based on. Most answers were clearly laid out, with headings and sub-headings.

To sum up, as has been noted many times before, the difference between a fail/bare pass and a good pass is often a candidate's ability to apply their technical understanding to the scenario and to incorporate this application into their answers consistently. Candidates should also pay attention to their clarity of explanation and ensure that they have addressed all parts of the sub-task. The same general advice to candidates applies to this session as much as all the previous sessions: answer the sub-task set (not what you wish had been set based on your pre-prepared answer), answer all parts of the sub-task and demonstrate technical understanding within the context of the business and the sub-task, referring as much as possible to the information given to you.

Variant 1 Comments on performance

Task 1

The first sub-task asked candidates to explain what the variances shown in Table 1 meant and possible reasons for each variance, based on what George had said and the KPI dashboard in Table 2. This tested core activity C. Most candidates were able to explain the meaning of the direct materials and direct labour variances with technical accuracy and to give reasons based on the scenario. Fewer candidates were able to articulate accurately the meaning of the variable overhead variances, often confusing the meaning of the expenditure variance with the fixed production overhead variance or linking the efficiency variance to labour hours rather than furnace hours. As a result, the reasons given were also often confused. Many candidates also failed to comment on the KPIs in the dashboard as part of their explanation of the variances, which was a shame as there were specific marks for this.

The second sub-task asked candidates to explain what these variances indicated about the overall impact on profit in the month, of using the new type of frit. This tested core activity C. Most candidates gave superficial answers here. Those candidates that were able to distinguish between those variances which had been directly affected by the change in frit, and those related to other reasons scored well here.

The third sub-task asked candidates to suggest two KPIs to monitor the performance of the new external training college during 2023. It also asked for an explanation of how each KPI would be measured and why it would be suitable. This tested core activity C. There were some high level 2 and level 3 answers here where candidates suggested and justified measures linked to pass rates and attendance. Some candidates failed to link to college performance and instead focussed on the performance of the trainee in the Production Facility. Some credit was available if such measures were linked to college training, but often this was not the case.

Task 2

The first sub-task asked candidates to explain the feasible region of Graph 1, how to use the graph to determine the optimal production plan and what that optimal production plan was. It also asked for an explanation of the factors to be considered before proceeding with this production plan. This tested core activity E. Most candidates attempted to explain where the feasible region was on the graph, but few answers were articulated well, leading to a lack of clarity. As a result, few candidates scored above a low level 2 for this part of the sub-task. Most candidates were able to explain that the iso-contribution line needed to be moved to the outer edge of the feasible region, and many gave the correct solution based on the intersection of lines A and D. The factors to consider was generally not well done. Some candidates failed to make any comments at all, and others focussed on the assumptions of linear programming. What was expected was a consideration of factors such as the expectations of the two customers and whether it would be possible to increase the amount of resource.

The second sub-task asked candidates to explain three areas of the CGMA cost transformation model and how these applied to the Enamelling Department. This tested core activity A. Answers here were reasonably good. Many candidates scored at level 3 for the first area about cost conscious culture because they were able to demonstrate technical understanding of this area of the model and used the scenario given to illustrate how this was being applied in the department. Managing risks was less well answered. Many candidates commented on risks in general rather than focussing on managing the risks associated with driving costs down, such as the risk to quality. Most candidates were able to make some sensible comments about sustainability, but again this was often general rather than focussed on the optimisation of profit through either cost reduction or increased sales.

Task 3

The first sub-task asked candidates to explain how an ABB approach could be applied in determining a budget for employee costs for the Enamelling Stores. This tested core activity B. This was the worst answered sub-task on the case. Many candidates thought that this was about costing rather than budgeting. Candidates are reminded that ABB is a method of budgeting based on an activity framework and using cost driver information. For this sub-task, the budget that needed to be determined was that for employee costs in the Enamelling Stores. To do this using ABB requires the following steps: identify the activities that the employees will do (move raw materials into store and move raw materials into production), determine the cost driver for that activity (for example, pallet movement), determine the time taken per driver, quantify total time required per activity (for example, number of pallets moved x time taken to move each pallet), collate all activities to determine total time required and finally quantify the cost of the total time required to arrive at the budget. Candidates that explained ABC rather than ABB scored level 1 at best. However, there were some very good answers here.

The second sub-task asked candidates to explain two potential benefits and two potential difficulties of using ABB to determine the employee costs budget for the Enamelling Stores. This tested core activity B. Many candidates struggled to get above a low level 2 here, mainly because the points made focussed on costing rather than budgeting. There was also a lack of application to the scenario.

The third sub-task asked candidates to explain the information needed to calculate the EOQs for frit and each type of consumable. It also asked for an explanation of two of the assumptions that underpin the EOQ model and whether these would hold for frit and consumables inventory. This tested core activity F. This was answered reasonably well, with most candidates achieving at least a mid-level 2 score. Candidates that scored at level 3 did so because they 'explained' rather than 'identified' the information required and so gave examples of holding costs and ordering costs. These high scoring candidates also accurately identified two of the assumptions and explained whether these would hold within the context of the scenario.

Task 4

The first sub-task asked candidates to explain, with appropriate justification, how the new furnace would be classified and initially measured in the financial statements. It also asked for an explanation of the impact of the new furnace on reported profit for the year ending 30 June 2023. This tested core activity D. For the most part, answers here were good, with a significant number at level 3. Where candidates didn't score at level 3, it was usually because, either: they failed to justify how the new furnace would be classified as an item of property, plant and equipment or they did not refer to the information given in the scenario. Most candidates explained the need for depreciation and that the lining of the furnace would be depreciated over a different useful life compared to the main furnace asset. Some candidates did comment on the tax impact of the new asset, which was not required and scored no marks.

The second sub-task asked candidates to explain how the old furnace would be classified and how it would be measured in the financial statements for the year ending 30 June 2023. This tested core activity D. This was not as well answered as the previous sub-task. Most candidates demonstrated a technical understanding of the criteria for determining whether an asset is held for sale, but often failed to comment on these in the context of the scenario or incorrectly concluded that it was an asset held for sale. With respect to the measurement of the asset, very few candidates mentioned impairment. Many candidates commented on the measurement rules for an asset held for sale (whether or not they had concluded that it was an asset held for sale). Even those candidates that did mention impairment often gave brief and confused answers.

The final sub-task asked candidates to explain how to use a decision tree to help decide which supplier option to choose, assuming that the company wanted to maximise profits. It also asked for an explanation of two limitations of using decision tree methodology to make this decision. This tested core activity E. Many candidates were able to identify the correct option based on choosing the lowest expected value of cost, but few scored well here because they failed to actually answer the task, which was to explain how to use the tree to make the decision. Some candidates failed to take into account the fixed costs and others chose the highest expected value as they had not read the scenario carefully enough to determine that the expected values were costs. Most candidates could identify two limitations, but few could explain these in the context of the scenario and therefore only achieved half marks for this trait.

Variant 2 Comments on performance

Task 1

The first sub-task asked candidates to explain what the information in Table 1 indicated about each potential supplier's approach to working capital management, and their suitability to be the machinery supplier. This tested core activity F. A significant number of candidates scored at the higher end of level 2 and above, which was good to see. However, there were a number of candidates that lost marks by only commenting on the relative size of each supplier's working capital ratios, rather than commenting on what these ratios indicated about their approach to working capital management. Also, some candidates did not use the data to discuss and/or failed to comment on the supplier's suitability. As is always the case for OCS, it is important that candidates answer all aspects of the specific task given (not necessarily, answer a task that have been set before) and utilise the information given to them in the unseen material. Rarely, if ever, is information given in the unseen material which is superfluous. Therefore, candidates are advised, when reading the scenario through, to have an enquiring mind and ask themselves questions such as 'Why has the examiner mentioned this?' or 'How could I bring this into my answer?'

The second sub-task asked candidates to explain how expenditure on the machinery shown in Table 2 should be recorded in the statement of financial position and statement of profit or loss of the company for the year ending 30 June 2023. This tested core activity D. The initial recording of the new machinery was generally well attempted by candidates, showing sound knowledge of IAS16. Candidates that didn't score so highly here did so because they did not justify why some of the costs would be capitalised. However, subsequent measurement of the new machinery in terms of depreciation was less well answered. Some candidates did not discuss this aspect at all, despite the task clearly referring to the financial statements for the year ending 30 June 2023. Other candidates, who did recognise the need for depreciation, often gave superficial answers and did not consider details such as the need to prorate the charge for the year. How to treat the expenditure on adapting the old machine was often over-looked, and as with the new machinery, those who did consider it, often incorrectly treated depreciation.

The third sub-task asked candidates to explain how the purchase of the new machinery would impact the calculation of the tax payable this year and in future years. This tested core activity D. This was not well answered, and was often ignored, showing a lack of technical knowledge and understanding. Those candidates that did attempt it scored a low level 2 or lower. Many candidates were confused between the impact of the normal 25% reducing balance tax allowance and the 100% allowable in this case. Very few candidates attempted to discuss the impact on tax payable in future years.

Task 2

The first sub-task asked candidates to explain how the figures shown in Table 1 would be used to decide which of the cook-boxes should be bought-in and which should be made in-house. It also asked for an explanation of any other factors that should be considered before making a final decision about buying-in the cook-boxes. This tested core activity E. This was not well answered. Some candidates incorrectly used total production costs, instead of variable costs, leading to a suggestion that all four products should be bought-in. Where candidates did consider variable costs, most were not sure how to incorporate the limiting factor for welding hours. In contrast, most candidates could explain some relevant other factors affecting the decision. Popular suggestions were quality, lead-time and supplier ethics or financial stability, all of which were appropriate.

The second sub-task asked candidates to explain how adopting an ABC approach would change the way in which production overheads were absorbed in the mechanical assembly process. This tested core activity A. This was the worst attempted part of this variant, with most candidates struggling to get above a low level 2 score. Whilst most candidates could explain the different approaches of ABC and traditional overhead absorption methods, this was often only done in a very generalised “textbook” way. There was little attempt by most candidates to relate their explanation of adopting ABC to the four major activities they were provided within the grill assembly process. It was clear that most candidates could not bridge the gap between knowledge and application.

The third sub-task asked candidates to explain how using ABC could improve overall cost control over the mechanical assembly process. This tested core activity A. As with the second sub-task, this often resulted in obvious unapplied points, for example, ‘provides management with better information’, or had the wrong focus such as ‘helping with pricing decisions’. Few candidates linked their answer to the question of how cost control could be improved in the assembly process.

Task 3

The first sub-task asked candidates to explain how the expected values shown in Tables 1 and 2 could be used to make a decision on whether to check every inventory item. It also asked for explanation of three limitations of using this information to make the decision. This tested core activity E. This was generally well attempted by candidates, with many score at level 2. Most candidates came to the correct decision but did not necessarily make sufficient use of the data provided by commenting on the range of data provided. For example, most candidates recommended not to check for welding errors because it had the lowest expected value but did not comment that this option has a 0.1 probability of costing B\$150,000.

The second sub-task asked candidates to suggest three KPIs that would be appropriate to monitor the performance of the new supplier. It also asked for explanation of how each KPI would be measured and why it would be appropriate. This tested core activity C. KPIs are regularly tested, and it is pleasing to see that candidates are reasonably well prepared for this. Many candidates made a reasonable attempt at suggesting KPIs that would be useful. Weaker candidates often failed to explain why their suggested KPIs would be

appropriate, or sometimes proposed KPIs that were related to customer satisfaction from FireWorks' own customers without explaining how such feedback could be used to measure the performance of the new supplier.

The third sub-task asked candidates to explain how a feedforward control approach differs from a feedback control approach and the benefits to the business of using a feedforward control approach. This tested core activity B. Whilst candidates usually demonstrated an understanding of the two approaches, not many used the context of the business and the scenario given. For example, when explaining benefits, many candidates referred to sales planning rather than the scenario provided of material usage in welding.

Task 4

The first sub-task asked candidates to explain what the sales price, mix and quantity variances meant and the likely reasons they had occurred. This tested core activity C. The meaning of the sales price variances was generally well explained by most candidates, with most mentioning the two price reduction initiatives given in the scenario. As has been the case in previous sessions, the sales mix and sales quantity profit variances were explained less well. There remains some confusion in many candidates' answers. In particular, many candidates attempted to answer sales mix in terms of the standard textbook approach of different products, rather than the actual scenario of different sales channels. For example, not many candidates commented on the fact that the number of small customers had increased by 74 to 97 over the period and that therefore the mix of channels had changed. As a result, scores for this sub-task tended to be low to mid-level 2.

The second sub-task asked candidates to explain whether, with regard to the FTG400 product, the decision to introduce the two policies described could be considered successful. This tested core activity C. Most candidates argued that these policies were successful, using the argument that the adverse sales price variance was more than offset by the favourable mix and quantity variances. Whilst this was a reasonable statement, very few candidates commented on the possible future impact and, in particular, the impact on the five large retailers of price reductions in the other two sales channels.

The third sub-task asked candidates to explain the features of a responsibility accounting system and whether it would be beneficial for FireWorks if the sales managers participated in setting budgets and targets for sales volumes and revenue. This tested core activity B. It was a struggle for many candidates to separate the two aspects of "features" and "beneficial", and for those that did, there was a lot of repetition of points made under the two sub-headings. Most candidate's answers either compared bottom-up and top-down budgeting, or discussed participating and imposed budgets, without attempting to apply their answers to the scenario of helping plan for sales volumes and revenues. Not many candidates discussed relevant points such as whether managers could control the factors affecting their performance, or separating variances into planning and operational ones.

Variant 3 Comments on performance

Task 1

The first sub-task asked candidates to explain, with reference to Graph 1, the components which make up a time series. This tested core activity B. This was answered poorly by most candidates who seemed to provide rote learnt answers to previous time series tasks. It was disappointing that even those who wrote accurate headings for the four components of time series could not explain them in any depth, demonstrating a lack of technical knowledge. Few candidates used the graph to explain the components, as requested and therefore demonstrated a lack of application and a failure to answer the task. A high proportion of answers contained a detailed explanation of the axis on the graph and the different techniques used to determine the trend, but these were answers to a previously set task, not this task.

The second sub-task asked candidates to explain the limitations of using the company's past sales data with a time series analysis to forecast future sales volumes. This tested core activity B. Most candidates were able to explain the limitations of the time series for forecasting, although few scored at level 3, as answers were often limited to reasons why the past did not equal the future.

The third sub-task asked candidates to explain the figures shown in Table 1. This tested core activity E. The majority of candidates failed to explain the payoff table at all, instead electing to only describe it. Stating "the top line has three different selling prices" is a description, whereas "we can choose one of the three selling prices" is an explanation.

The fourth sub-task asked candidates to explain how the maximax, maximin and minimax regret decision criteria would be used to select the selling price, stating the selling price that would be chosen under each criterion. This tested core activity E. This is a style of task that has been asked many times and it was disappointing that more candidates did not achieve a level 3 score. Many answers were confused or technically incorrect. Candidates who guessed the correct selling price without clear explanation of this in the context of the decision criterion earned no credit. Future candidates should know how to explain these three decision criteria.

Task 2

The first sub-task asked candidates to explain the actions that could be taken to manage the cash and working capital of the company more effectively to avoid a cash deficit arising, including any potential implications of these actions. This tested core activity F. This was answered well by most candidates, who included at least one action and potential implication for each element of the working cycle, in an applied way. The most common reasons for a lower mark were: failing to include an explanation of how to manage cash

and ignoring the information in the case, for example, suggesting JIT production, when the pre-seen explained the need for constant production levels throughout the Winter months.

The second sub-task asked candidates to explain how the right-of-use asset would be initially measured and how it would impact the financial statements for the year ending 30 June 2023. This tested core activity D. This task was reasonably well answered, with many candidates using the unseen material to explain with technical accuracy how to initially and subsequently measure the right-of-use asset. A common issue though was to explain the lease liability, even though this was specifically excluded from the task. While this did not lose candidates any marks, it did eat into the time available and often left too little time for the final part of the task.

The third sub-task asked candidates to suggest three KPIs, suitable for appraising the success of the website in generating sales, explaining how each would be measured and why it would be appropriate. This tested core activity C. Answers here were disappointing, as many candidates failed to focus on measures that were appropriate. KPIs for monitoring frit quality or late deliveries were not appropriate and, despite how well explained, scored no marks.

Task 3

The first sub-task asked candidates to explain, with clear justifications, whether each of the costs in the attached schedule and accompanying notes were relevant for determining the minimum price. This tested core activity E. This was answered very well and a significant number of candidates achieved a level 3 score. For those that scored at level 2 or lower, the most common error was failing to explain why a particular figure was relevant or not. Simply stating, “is relevant”, is identifying and not explaining and therefore, does not answer the task posed and is awarded minimal credit.

The second sub-task asked candidates to explain whether a relevant cost approach to price setting would be appropriate in this situation. This tested core activity E. Few candidates scored well here as they did not explain whether the approach was suitable in the circumstances. Many candidates recommended using other costing methods but, if they did not explain the suitability of using relevant costing, were answering a different task to the one given and received no marks.

The third sub-task asked candidates to explain the differences between the profit statements, and the profits they show, in each of the two weeks. It also asked for explanation of the benefits to the business of using an absorption costing approach. This tested core activity A. There were some very good answers that used the figures in the table to illustrate and explain the differences accurately, therefore scoring at level 3. There were an equal number of answers which stated that marginal costing ignored fixed production overheads, which is incorrect. The poorest answers repeated the figures from the tables without adding any value. Candidates can assume that the Senior Management Team has sight of the evidence material and do not need it describing to them, rather than need to have the differences in format and profit explained.

Task 4

The first sub-task asked candidates to explain the meaning of each of the fixed production overhead variances shown in Table 1, including the possible reasons why the variance had occurred and whether it provided management with useful information. This tested core activity C. The unseen material gave several events that should have been used to explain possible causes of the variances. In reality, the application of these events demonstrated that many candidates had little understanding of the capacity and efficiency variances. The material clearly stated that overheads were absorbed on the basis of labour hours, but many asserted that the capacity and/or efficiency variance was due to buying a new machine. Most candidates appeared to miss the final part of the task which was to explain the usefulness to management of the variances, and therefore some candidates missed out on a level 3 score, despite explaining the variances very well.

The second sub-task asked candidates to explain how the principles of a 'beyond budgeting' approach might apply to the Packing Department, and the benefits of FireWorks of using a 'beyond budgeting' approach. This tested core activity B. Candidates either knew the topic or did not. Some of the candidates in the latter camp chose to present answers that explained why zero based budgeting was a better approach than incremental budgeting. This has been set as a task in the past but, as it wasn't actually the task this time, these answers earned no credit.

The final sub-task asked candidates to explain how two issues should be treated in the financial statements for the year ended 30 June 2023. This tested core activity D. Most candidates correctly identified the need to apply IAS 10 and which was an adjusting event and which was not. Although most answers would have been improved by clearer explanation, generally this was well answered, with most candidates getting at least high level 2.

Variant 4 Comments on performance

Task 1

The first sub-task asked candidates to explain what each of the four variances in Table 1 meant and possible reasons for their occurrence. This tested core activity C. Generally, candidates are getting better at explaining the meaning of what adverse or favourable variances mean, rather than simply regurgitating how the variance is calculated, which is pleasing to see. Most candidates could accurately explain the expenditure variance and the possible reasons for this adverse variance based on the scenario. Fewer candidates were able to explain the efficiency variance, with some candidates failing to recognise that this was about the efficiency of the absorption base, which was labour hours. Even fewer candidates demonstrated understanding of the capacity variance. Some candidates correctly commented that the favourable variance meant extra capacity, but linked this to extra machine availability or to additional production rather than to additional labour hours arising from extra employees and working overtime. Most candidates did not comment on the total variance and, when they did, simply suggested that it is favourable because the capacity variance was favourable. Very few commented on the over-absorption.

The second sub-task asked candidates to explain what was meant by a feedback control system and how it applied in the business, using the variances in Table 1 to illustrate the explanation. This tested core activity B. Most candidates were able to describe feedback control in a general sense, but application to the scenario was usually poor. As a result, many candidates scored at level 1 or a low level 2. Those candidates that scored higher focussed on how feedback control resulted in both positive and negative feedback, with actions to correct negative feedback and actions to embrace positive feedback. Candidates that did this often also made good reference to the scenario, giving suggestions of how the variances could be controlled, for example, additional training for inexperienced workers. Some candidates wasted time by explaining how feedback could lead to better planning, rather than focus on budgetary control. Others wasted time by discussing customer feedback to make the service better in future.

The third sub-task asked candidates to explain what the chart tells us about breakeven and margin of safety based on the revised budget. It also asked for explanation of how the chart and breakeven position would be affected by changes (a) and (b), considering the impact of each change independently of the other. This tested core activity E. Explanation of breakeven and margin of safety was not answered as well as it could have been. Many candidates gave detailed descriptions of what the graph was saying (therefore answering a different task) but could not distinguish between the two breakeven points. Textbook descriptions of the margin of safety were given but few explained it in the context of the scenario. With regard to the impact of the changes, most candidates could identify the impact on profit and breakeven, but few explained how the chart would be affected, which limited some marks.

Task 2

The first sub-task asked candidates to explain how a zero based budgeting (ZBB) approach could be applied to create a budget for a new on-site cafe service. This tested core activity B. Despite ZBB being asked many times before, most candidates still do not have the ability to apply ZBB to a scenario. Most candidates demonstrated understanding that this was participative and that it started from scratch but, for some candidates, this is as far as it went, capping their score to mid-level 1. Some candidates had clearly learnt the stages involved in a ZBB budget, but did not apply this to the cafe service, which usually resulted in a lower level 2 score. Explanations of mutually exclusive and incremental decision packages related to different levels of service in the cafe were rare.

The second sub-task asked candidates to explain two benefits to the business and two challenges that it might face when using a ZBB approach to create this budget. This tested core activity B. Most candidates gave two sensible benefits and challenges, but often these were generic rather than applied to either FireWorks or the cafe service, limiting the score to mid-level 2 at best.

The third sub-task asked candidates to suggest three key performance indicators (KPIs) what were appropriate to monitor the performance of the new on-site cafe. It also asked for explanation of how each KPI would be measured and why it would be appropriate. This tested core activity C. Few candidates scored highly here. Many candidates suggested KPIs that focussed on the productivity and morale of the staff rather than on the performance of the cafe. Explanations of why the KPIs would be useful were often given but many did not clearly express how they would be measured.

Task 3

The first sub-task asked candidates to explain how the lease for pressing equipment would be initially recorded and subsequently measured in the financial statements for the year ending 30 June 2023. This tested core activity D. Despite this being tested many times before, answers here were generally poor, with many candidates scoring at level 1 or low level 2. Many candidates muddled the two sides of the transaction and gave generic answers that suggested that either the asset was increased for interest or the liability was reduced by depreciation and increased for the arrangement fee. The useful life of the right-of-use asset was often stated as 8 years not 10, and few knew that it needed to be prorated in the first year from the time it was available for use. Interest payable was often noted as relevant, but few prorated this. Future candidates would be advised to make sure that they can differentiate between how a right-of-use asset and a lease liability are accounted for.

The second sub-task asked candidates to explain how to account for damaged welding equipment in the financial statements for the year ending 30 June 2023. This tested core activity D. Many candidates wasted time giving irrelevant details about how to account for impairment, which was not necessary as the item had been repaired. Most candidates did correctly state the that cost of repairs would

be expensed to profit or loss, but didn't justify this treatment in anyway. Lower scoring candidates gave answers that did not use the scenario and simply stated that depreciation would now be over 5 years without stating when this change would occur.

The third sub-task asked candidates to explain the type, nature and cost behaviour of the future costs associated with an app. It also asked for explanation of the difficulties associated with establishing a cost per download of the app. This tested core activity A. Most candidates were able to identify what the future costs would be, but often failed to explain whether these would be fixed/variable or direct/indirect. Stronger candidates mentioned either the nature or the cost behaviour but very few discussed both. Despite the difficulties being examined many times, most answers lacked relevance to the scenario and did not appreciate the three key issues of number of downloads, sharing the overheads and determining the level of future costs.

Task 4

The first sub-task asked candidates to explain how the decision about which potential contract to choose would be made using a risk neutral, risk seeking and risk averse approach, stating the choice made under each approach. It also asked for one limitation of using each approach to make this decision. This tested core activity E. Most candidate answers were disappointing. Despite this clearly being about risk, many candidates decided that this was about maximax, maximin and minimax regret so tried to shoe-horn this into the discussion on risk attitudes. Some comments were relevant, and the correct decision was made but often for the wrong reasons, therefore scoring no marks. The discussion on limitations was poor especially for the risk averse decision maker. This may have been because the candidates did not often select the option based on the coefficient of variation.

The second sub-task asked candidates to explain, based on the information in Tables 1 and 2, how the risk attitude of the SMT would impact on its willingness to pay for the perfect information. This tested core activity E. This was again not well answered. Few candidates demonstrated understanding of the value of perfect information or were able to comment accurately on how the risk attitude would affect the decision to pay for the perfect information. This demonstrated a lack of technical understanding of risk attitudes.

The third sub-task asked candidates to explain the factors to be considered when setting credit limits for SmartCook and OutsideLiving, using the information in Table 4. This tested core activity F. Answer here were mixed. Lower scoring candidates usually took the approach of explaining the working capital positions of the two companies in a general sense, and some even commented about these two companies as suppliers rather than customers. Higher scoring candidates focussed on the task given which was to explain the factors to consider when setting credit limits (so, size of the company, growth potential, ability to pay, risk of becoming an irrecoverable debt) and used the information given to support this. Very few candidates differentiated between the credit limits and credit periods to be offered.

Variant 5 Comments on performance

Task 1

The first sub-task asked candidates to explain what a rolling budget was and the potential benefits and drawbacks of adopting rolling budgets throughout the business. This tested core activity B. This was reasonably well answered by most candidates. Many candidates explained in some detail what a rolling budget was and covered the key features in a clear manner. Low scores here were usually the result of a lack of clarity or depth in the answer. Most candidates were also able to explain the benefits and drawbacks of adopting rolling budgets in a general sense. To score at level 3 though, candidates needed to have applied their answer to the specific business and most did comment on the suitability to the new initiative. Candidates are reminded to avoid repetition in their answers. This was evident when discussing drawbacks as the same point of time consuming and costly – this was often referred to in several ways.

The second sub-task asked candidates to explain what the time series information in Schedule 1 told us about demand for Udenfor cookery classes in North America and the usefulness of this information for the purpose of planning the new GrillSkill initiative. This tested core activity B. There was a mix of answers here. Some candidates gave a good interpretation of the trend line and seasonal information, clearly explaining the meaning of each component, and scored at high level 2 or 3. Other candidates were often vague and referred to the general idea of a trend and seasonality, without explaining the information given. This approach lacked application and usually scored at level 1. A small number of candidates suggested that the 600 and the 30 in the trend line related to fixed and variable costs, highlighting their lack of understanding of time series analysis. Many candidates did not mention the trend was increasing or that the seasonal variations were multiplicative or commented on the large size of the variations. Most candidate though were able to identify that the seasonal variations were aligned to the seasons of the year and related this to consumer behaviour, demonstrating application. In terms of the usefulness of the information, answers were again varied. Some candidates did not produce a balanced argument and concentrated only on positive aspects such as the two companies having a similar pattern of seasonal variations. Higher scoring candidates were able to come up with a range of points about usefulness covering both positive and negative aspects in the context of the scenario.

Task 2

The first sub-task asked candidates to explain, with appropriate justification, how each item included in Table 1 would be initially recorded and subsequently measured in the financial statements for year ending 30 June 2023. This tested core activity D. This was

answered reasonably well by most candidates who were able to apply the provisions of IAS 16 to the various items given. Those candidates that didn't score so well here usually did so for one or more of the following reasons: failing to justify why an item of expenditure should be capitalised (future economic benefit and reliable measurement), failing to comment on the grills, not recognising the need to prorate depreciation and not recognising a prepayment for insurance at the year end. Most candidates demonstrated understanding that the refit expenditure should be depreciated separately from the truck which was good to see and made sensible comments about the training costs.

The second sub-task asked candidates to explain what Line A on Chart 1 indicated about the GrillSkill budget, breakeven and margin of safety. It also asked for explanation of the reasons for and the implications of the differences between Lines A and B. This tested core activity E. Many candidates provided a good interpretation of Line A, identifying fixed costs, the order of classes, total profit/revenue, breakeven and margin of safety. However, candidates are reminded that to score at level 3 requires explanation rather than just identification. Key to scoring well in the second part of the sub-task was an understanding that revenue was driven by the number of delegates in the class and that variable costs were driven by the number of classes and not the number of delegates. Those who did understand this and articulated it in their comparison of the two lines scored well. Unfortunately, many candidates did not understand this, or did not articulate it well, and purely commented that, for example, the breakeven point is higher, without showing an understanding of why this was the case. Few candidates commented on the underlying assumptions such as the practical feasibility of selling classes in the order of their C/S ratio.

Task 3

The first sub-task asked candidates to explain, for each of the three potential suppliers, what the information in Table 1 indicated about their approach to working capital management. It also asked for comments on their suitability as the probe supplier. This tested core activity F. Analysis of the working capital ratios was reasonably good from many candidates. However, there were too many candidates that commented on the figures without a meaningful explanation of the implications of, for example, a long receivables credit period. Some candidates became confused over the approaches to working capital, but many did recognise that Probity was overtrading. However, a small number then went on to recommend these as a supplier, which was not correct. To score well here, candidates needed to comment on the main features of each supplier's working capital as well as the suitability and the approach. Many did not do all three of these things.

The second sub-task asked candidates to explain how the costs of the smartphone app differ, specifically in terms of the type of costs and the timing of their occurrence, compared to the costs of the probes. This tested core activity A. Most candidates failed to score above a mid-level 2 here. Many candidates provided a long list of the costs of the app but nothing on the probe, which meant that comparison wasn't possible. Other candidates explained (quite well) the difficulties of calculating a unit cost, but this was not the task

given and scored no marks. It is good to see that candidates have looked at past OCS answers, but it is important that candidates read the task given carefully to make sure that they are focussing their answer appropriately.

The third sub-task asked candidates to explain the relevant cost of each item in Table 2 in order to help the SMT make the decision about whether or not to give gifts to guests at the launch party. This tested core activity E. Most candidates were able to correctly identify most of the relevant costs, but some did not always justify why this was the case, which limited the mark. There were few correct answers in relation to the 'golden ticket', as many either said this was not relevant or said it was relevant at the selling price and not the cost of replacement. This showed a lack of understanding of opportunity cost.

Task 4

The first sub-task asked candidates to explain possible reasons why the KPIs in Schedule 1 had been achieved. It also asked for explanation of why the KPIs provided useful information about GrillSkill classes. This tested core activity C. Candidates are reminded in the exam to give themselves time to reflect on what is being asked of them. KPIs are a frequent area to be tested in OCS but the ways in which they are tested vary, so it is important to read the task carefully and use the additional information given. Most candidates scored at level 1 or low level 2 here, as they did little more than state the obvious. For example, for the first KPI, stating that there were more delegates in the class or that more delegates booked another class than target, candidates needed to go further to explain the significance of this. For example, for the first KPI, how the number of delegates was a driver of revenue whilst the cost of providing the class remained the same. For the second KPI, many did identify that this was a measure of customer satisfaction, but very few answers went further than this. For the third KPI, again few candidates discussed resource utilisation.

The second sub-task asked candidates to explain the meaning of each of the sales variances for the GrillSkill classes in Schedule 1 and possible reasons why they had arisen. This tested core activity C. This was a slightly different scenario to the usual sales variance scenario and, as a result, many candidates were unable to explain that the sales price variance resulted from more delegates in each class. The quantity and mix variances were generally better explained and most answers were able to articulate the meaning of these variances within this context. The reasons given were also well explained.

The third sub-task asked candidates to explain the over absorption figures in the absorption costing profit statements in Schedule 1. It also asked for explanation of why the profit figures were the same for both absorption and marginal costing and whether this was likely to always be the case for GrillSkill. This tested core activity A. Most candidates had some idea about this, but it was poorly articulated. Some merely stated that it meant that GrillSkill had over absorbed which did little to explain why this was the case. Very few candidates recognised that a reason for over absorption was the increased level of classes offered in the summer. Many candidates knew that the difference in profit between marginal and absorption costing was something to do with inventory, but then struggled to go further than this. Higher scoring answers recognised that GrillSkill was a service business and therefore did not carry inventory.

Variant 6 Comments on performance

Task 1

The first sub-task asked candidates to explain the advantages and disadvantages to FireWorks of using a participative approach to budget setting for the new operations in Geeland. This tested core activity B. This sub-task was answered well by most candidates. It was clear that candidates had prepared for a task about the advantages and disadvantages of participative budget setting, but some candidates failed to score at level 3 due to only limited application. The scenario presented many facts (budget holders were experienced, in position for at least three years, and sales managers were going to receive a performance-related bonus) and all of these could have been incorporated into the answer. More often than not, these facts were not mentioned at all. Future candidates must be aware that the textbook advantages and disadvantages of participative budgeting are not automatic regardless of context, and that answers can only earn good marks if applied to the context given in a scenario.

The second sub-task asked candidates to explain the importance of a Geeland sales forecast for planning and coordination within FireWorks. This tested core activity B. It was disappointing how few candidates seemed to know that sales were likely to be the principle budget factor and that therefore, the sales forecast was a starting point for the budget setting process and necessary for good planning and coordination. Indeed, many candidates only focussed on how to forecast sales using time series or market research, while others focussed on how a sales forecast would be used for control and performance assessment, neither of which addressed the task given and therefore earned no marks.

The third sub-task asked candidates to answer three specific questions posed by the Geeland sales managers, addressing any misunderstandings in relation to the issues raised. This tested core activity A. There were some good attempts at this task, mostly those that applied their understanding to the practicalities of the situation. Those that scored at level 1 seemed to panic and then answered a different task entirely, usually one about activity based costing.

Task 2

The first sub-task asked candidates to explain how to use maximax, maximin and minimax regret decision criteria to decide which of the couriers should be chosen. It also asked for a statement of which courier would be selected under each criterion. This tested core activity E. Given that this has been tested many times before, it was disappointing that most candidates could not explain or apply the three decision criterion: maximax, maximin and minimax regret. If candidates do not use past examination papers to prepare, they will not be prepared well enough to guarantee a pass. The marking team expected to award full marks to a high proportion of candidates

but, hardly any full marks were awarded. A significant proportion of candidates seem to have no idea how to use the payoff and regret tables.

The second sub-task asked candidates to suggest three KPIs which could be used to assess the performance of the courier service in Geeland, explaining how each would be measured and why each would be appropriate. This tested core activity C. KPIs are tested in every OCS variant, and frequently candidates are asked to suggest KPIs for a particular process or service. Frustratingly, while many candidates explained at length that KPIs need to be SMART (which earned no marks), few actually followed their own advice and generated SMART KPIs. The most common error was suggesting KPIs that did not monitor the process it was intended to measure. In this scenario, the KPIs were supposed to monitor a third-party courier service. Some answers suggested KPIs based on sales orders with no reference to the delivery of these orders and therefore earned no marks.

The third sub-task asked candidates to explain why the two scenarios in Table 3 had different impacts on the original budgeted contribution and profit. It also asked for an explanation of two limitations of the what-if analysis in this situation. This tested core activity B. Most candidates described rather than explained the information in the tables which earned limited credit. An explanation adds value to information. “Contribution has increased” is a description, “Contribution has increased because sales volume has increased” is an explanation.

Task 3

The first sub-task asked candidates to explain how the financial statements for the year ended 30 June 2023 would be affected by the faulty charcoal grills, making reference to IAS 10: Events after the Reporting Period and IAS 2: Inventories. This tested core activity D. This task specifically made reference to IAS 10 and IAS 2 and therefore it was expected that candidates would comment on both. Most candidates produced good answers regarding IAS 2 and scored at level 3 for this part. Candidate answers regarding IAS10 were not as well explained though, perhaps due to a lack of technical knowledge on this financial reporting standard.

The second sub-task asked for an explanation of how to use Graph 1 to determine the optimum production plan and identify what the optimal production plan was. It also asked for explanation of, assuming that additional resources could not be acquired, one other factor to be considered before proceeding with the optimal production plan. This tested core activity E. Tasks on linear programming graphs are rarely answered well, this session was no exception. Candidates who were prepared, scored well and those that were not, did not score well. An assumption that cropped up in many answers was that the optimal solution occurs where the two resource constraint lines cross. This is true in many cases but was not the case here and it is worrying that so many candidates think this is how to solve the linear programme.

The third sub-task asked candidates to use the graph to determine how many assembly overtime hours should be paid for and how to use the assembly hour shadow price to determine the maximum overtime premium per hour to be paid. This tested core activity E.

This was very poorly answered. Some candidates ignored it altogether, others gave only a vague definition of shadow price. Few candidates scored more than a level 1 here.

Task 4

The first sub-task asked candidates to explain what each of the variances in Schedule 1 showed and the reasons what they may have risen. This tested core activity C. The case material gave several events that should have been used to explain possible causes. Most candidates did very well explaining the sales price and sales profit volume variances. Understanding and application of the sales profit mix and sales profit quantity variances were less accomplished.

The second sub-task asked candidates to explain one potential advantage and one potential disadvantage of separating the August sales variances into planning and operational elements. This tested core activity C. Most candidates demonstrated understanding of planning and operational variances in a general sense but failed to explain in context. Those that scored a high level 2 or level 3 did so because they were able to use the scenario. Future candidates should be confident that some scenario information can be used more than once as it may explain different points.

The third sub-task asked candidates to explain the potential benefits and drawbacks if (i) using a Geeland factoring company and (ii) retaining the credit control function in Beeland and offering a prompt payment discount, to the retail customers in Geeland. It also asked for a suggestion of which would be the most suitable. This tested core activity F. While many candidates gave an excellent textbook answer for the advantages and disadvantages of using a factoring company, most ignored the context given and could not be awarded a level 3 mark.

Tips for future candidates

There are several key points to take into account when preparing for future Operational level case study examinations. These points are the same as in previous reports and are:

- Key to achieving a score at level 2 and above is to ensure that:
 - You have the technical knowledge and understanding of all of topics included in each of the core activities. It is not sufficient to rely on the fact that you remember it from the OTQ exams, because the chances are you won't. You need to revise technical material: if you don't have the knowledge, you can't score well.
 - You are able to apply your technical knowledge and understanding within the case study context. Simply reproducing rote-learned answers or pure knowledge of a topic area will score very few, if any, marks. Similarly, taking a non-targeted approach to an issue and commenting on everything that you know about it from a theoretical point of view will score few marks.
 - You are able to explain with clarity and comprehensively, rather than making unsupported statements. Writing comments such as, "this improves decision making", "this graph is essential" or "planning is enhanced" is not enough to gain any marks. Candidates must explain "how" and "why" this is the case. Explanations can quite often be improved by adding "because of" at the end of a sentence. Explanations should also utilise the information given to you within the case study itself, especially financial information. For example, reasons for variances are often given to you in the unseen information, the skill is to pick this out and use it.
- To help you achieve this, you need to:
 - Study the pre-seen material in depth. Ensure that you are very familiar with the business, especially the financial information, before the exam, as this will help you with applying your knowledge and will save you time. Similarly, an awareness of the industry that the business is in will help you to think of the wider issues that might impact on decisions that you could be asked to comment on.
 - Practise, practise, practise past OCS exam tasks. Practising past tasks and then checking against the published answers will help you to understand what the examiner is looking for.
- On the day:
 - It is important to take time to plan your answer so that you are able to apply your knowledge to the specifics of the case. I suggest that for certain tasks you plan your answers in the answer screen itself. For example, if you are asked for the potential benefits and problems of activity based costing, I suggest that you first note down headings for benefits and

problems. Under each heading, list your benefits and problems; these will become your sub-headings. Then you can write a short paragraph under each sub-heading. This will allow you time to think about all of the points that you want to make and will help to give your answer a clear format. Ultimately, it should save you time.

- Please take care over how your answer looks. Some answers are very difficult to read because of poor spelling and grammar. Whilst this examination is not a test of English, it is important that answers are presented well so that markers can see that you have demonstrated clear understanding of the issues.

Operational Level Case Study November 2022 & February 2023

Marking Guidance

Variant 1

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2022 & February 2023].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	C	Analyse performance using financial and non-financial information.	64%
(b)	C	Analyse performance using financial and non-financial information.	12%
(c)	C	Analyse performance using financial and non-financial information.	24%
Section 2			
(a)	E	Prepare information to support short-term decision making.	52%
(b)	A	Prepare costing information for different purposes to meet the needs of management.	48%
Section 3			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	36%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	32%
(c)	F	Prepare information to manage working capital.	32%
Section 4			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	32%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	32%
(c)	E	Prepare information to support short-term decision making.	36%

SECTION 1			
Task (a): Explain what the variances shown in Table 1 mean and possible reasons for each variance, based on what George has told me and the KPI dashboard in Table 2.			
Trait			
Raw material	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains clearly, and with technical accuracy, the meaning of one of the variances or provides a valid reason based on the scenario.	1
	Level 2	Explains clearly, and with technical accuracy, the meaning of at least one of the variances. Provides some valid reasons based on the scenario.	2
	Level 3	Explains clearly, and with technical accuracy, the meaning of both of the variances and provides valid reasons based on the scenario.	3
Direct labour	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains clearly, and with technical accuracy, the meaning of at least one of the variances and / or provides some valid reasons based on the scenario.	1 – 2
	Level 2	Explains clearly and with technical accuracy, the meaning of at least two of the variances. Provides some valid reasons based on the scenario.	3 – 4
	Level 3	Explains clearly and with technical accuracy, the meaning of all three variances and provides valid reasons based on the scenario.	5

SECTION 1 continued			
Task (a): Explain what the variances shown in Table 1 mean and possible reasons for each variance, based on what George has told me and the KPI dashboard in Table 2.			
Variable overhead	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains clearly and with technical accuracy, the meaning of one of the variances or provides a valid reason based on the scenario.	1
	Level 2	Explains clearly and with technical accuracy, the meaning of at least one of the variances. Provides some valid reasons based on the scenario.	2 – 3
	Level 3	Explains clearly and with technical accuracy, the meaning of both of the variances and provides valid reasons based on the scenario.	4
Department KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides some reference to the KPIs when explaining the variances, but this is limited and not necessarily related to the correct variance.	1
	Level 2	Provides reasonable reference to the KPIs when explaining the variances, but this may not necessarily relate to the correct variance.	2 - 3
	Level 3	Provides good reference to the KPIs when explaining the variances.	4
Task (b): Explain what these variances indicate about the overall impact on profit in the month of using the new type of frit.			
Frit	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides limited explanation of what the variances indicate about the overall impact on profit of the new type of frit.	1
	Level 2	Provides some explanation of what the variances indicate about the overall impact on profit of the new type of frit.	2
	Level 3	Provides reasonable explanation of what the variances indicate about the overall impact on profit of the new type of frit.	3

SECTION 1 continued			
Task (c): Suggest two KPIs to monitor the performance of the new external training college during 2023. Please explain how each KPI would be measured and why it would be suitable.			
Trait			
External college KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies at least one suitable KPI. Explanation of measurement and suitability lacks clarity and application to the scenario.	1 – 2
	Level 2	Identifies at least one suitable KPI. Explanation of measurement and suitability may lack some clarity and / or application to the scenario if more than one KPI is identified.	3 – 4
	Level 3	Identifies two suitable KPIs. Explanation of measurement and suitability is mostly clear and applied to the scenario.	5 - 6

SECTION 2			
Task (a): Explain the feasible region of Graph 1, how to use the graph to determine the optimal production plan and what that optimal production plan is. Please also explain the factors we should consider before proceeding with this production plan.			
Trait			
The graph	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the feasible region and how to use the graph to determine the optimal production plan. The explanation lacks clarity, depth, reference to the graph and technical accuracy. The correct optimal production plan is unlikely to be identified.	1 - 2
	Level 2	Demonstrates reasonable understanding of the feasible region and how to use the graph to determine the optimal production plan. The explanation may lack some clarity, depth, reference to the graph and / or technical accuracy. The correct optimal production plan may not be identified.	3 - 5
	Level 3	Demonstrates good understanding of the feasible region and how to use the graph to determine the optimal production plan. The explanation is mostly clear, detailed, references the graph and is technically accurate. The correct optimal production plan is likely to be identified.	6 - 7
Factors	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one relevant factor to be considered. The explanation lacks clarity and application to the scenario.	1 - 2
	Level 2	Explains at least two relevant factors to be considered. The explanation may lack some clarity or application to the scenario.	3 - 4
	Level 3	Explains at least three relevant factors to be considered. The explanation is mostly clear and applied to the scenario.	5 - 6

SECTION 2 (continued)			
Task (b): Explain the three areas of the CGMA cost transformation model identified above and how these apply to our Enamelling Department.			
Trait			
Culture	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of this part of the model. The explanation lacks clarity, depth, with no application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of this part of the CGMA model. The explanation may lack some clarity and / or depth. Application to the scenario may be limited.	2 - 3
	Level 3	Demonstrates good understanding of this part of the model. The explanation is mostly clear, detailed and applied to the scenario.	4
Risk	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of this part of the model. The explanation lacks clarity, depth, with no application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of this part of the CGMA model. The explanation may lack some clarity and / or depth. Application to the scenario may be limited.	2 - 3
	Level 3	Demonstrates good understanding of this part of the model. The explanation is mostly clear, detailed and applied to the scenario.	4
Sustainability	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of this part of the model. The explanation lacks clarity, depth, with no application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of this part of the CGMA model. The explanation may lack some clarity and / or depth. Application to the scenario may be limited.	2 - 3
	Level 3	Demonstrates good understanding of this part of the model. The explanation is mostly clear, detailed and applied to the scenario.	4

SECTION 3			
Task (a): Explain how an ABB approach could be applied in determining a budget for employee costs for the Enamelling Stores.			
Trait			
ABB	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of ABB. The explanation of how to determine the budget requested lacks clarity and technical accuracy. Little if any reference is made to the activities provided in the scenario.	1 - 3
	Level 2	Demonstrates reasonable understanding of ABB. The explanation of how to determine the budget requested lacks some clarity and technical accuracy. There is an attempt to reference the activities provided in the scenario.	4 - 6
	Level 3	Demonstrates good understanding of ABB. The explanation of how to determine the budget requested is mostly clear and technically accurate. There is a reasonable attempt to reference the activities provided in the scenario.	7 - 9

SECTION 3 (continued)			
Task (b): Explain two potential benefits and two potential difficulties of using ABB to determine the employee costs budget for the Enamelling Stores.			
Trait			
Benefits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains one potential benefit. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one potential benefit. The explanation may lack some clarity and application to the scenario.	2 - 3
	Level 3	Explains two benefits. The explanation is clear and applied to the scenario.	4
Difficulties	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains one potential difficulty. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one potential difficulty. The explanation may lack some clarity and application to the scenario.	2 - 3
	Level 3	Explains two difficulties. The explanation is clear and applied to the scenario.	4

SECTION 3 (continued)			
Task (c): Explain the information needed to calculate the EOQ's for frit and each type of consumable. Please also explain two of the assumptions that underpin the EOQ model and whether these are likely to hold for frit and consumables inventory.			
Trait			
EOQ information	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the information needed to calculate the EOQ. The explanation lacks clarity, depth, technical accuracy and application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of the information needed to calculate the EOQ. The explanation may lack some clarity, depth, technical accuracy and application to the scenario.	2 – 3
	Level 3	Demonstrates good understanding of the information needed to calculate the EOQ. The explanation is clear, detailed, technically accurate and applied to the scenario.	4
Assumptions	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies one of the assumptions. There is little if any attempt to accurately explain whether this assumption holds in this situation.	1
	Level 2	Identifies at least one of the assumptions. There is some attempt to accurately explain whether this (these) assumption (s) holds in this situation.	2 – 3
	Level 3	Identifies two of the assumptions. There is a reasonable attempt to accurately explain whether these assumptions hold in this situation.	4

SECTION 4			
Task (a): Explain , with appropriate justification, how the new furnace will be classified and initially measured in our financial statements. Please also explain the impact of the new furnace on our reported profit for the year ending 30 June 2023.			
Trait			
Initial measurement	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding that the furnace is classified as PPE but fails to justify why this is the case. Is unlikely to comment on the initial measurement of the asset.	1
	Level 2	Demonstrates understanding that the furnace is classified as PPE and attempts to justify why this is the case. Recognises the initial measurement rules in IAS 16 but fails to fully or accurately apply these to the scenario.	2 - 3
	Level 3	Demonstrates understanding that the furnace is classified as PPE and makes a good attempt to justify why this is the case. Recognises the initial measurement rules in IAS 16 and applies these fully and accurately to the scenario.	4
Impact on profit	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding that there will be a depreciation charge but fails to explain how this will be determined and its impact on reported profit.	1
	Level 2	Demonstrates understanding that there will be a depreciation charge and attempts to explain how this will be determined and its impact on reported profit. The explanation lacks clarity or may be incomplete or may not reference the scenario.	2 - 3
	Level 3	Demonstrates understanding that there will be a depreciation charge and attempts to explain how this will be determined and its impact on reported profit. The explanation is mostly clear, complete and references the scenario.	4

SECTION 4 (continued)			
Task (b): Explain how the old furnace will be classified and how it will be measured in our financial statements for the year ending 30 June 2023.			
Trait			
Classified	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding that need to consider whether the asset is held for sale. The explanation lacks clarity and depth, and the IFRS 5 criteria are incorrectly applied to this situation.	1
	Level 2	Demonstrates understanding that need to consider whether the asset is held for sale. The explanation lacks some clarity and / or depth. The correct conclusion about classification may not be reached.	2 – 3
	Level 3	Demonstrates understanding that need to consider whether the asset is held for sale. The explanation is mostly clear and the correct conclusion about classification has been reached.	4
Measured	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the old furnace will be measured in the financial statements for the year ending 30 June 2023. The explanation lacks clarity, depth and technical accuracy.	1
	Level 2	Demonstrates reasonable understanding of how the old furnace will be measured in the financial statements for the year ending 30 June 2023. The explanation may lack some clarity, depth and /or technical accuracy.	2 – 3
	Level 3	Demonstrates good understanding of how the old furnace will be measured in the financial statements for the year ending 30 June 2023. The explanation is mostly clear, detailed and technically accurate.	4

SECTION 4 (continued)			
Task (c): Explain how we should use the decision tree to help us decide which supplier option to choose assuming that we want to maximise profits. Please also explain two limitations of using decision tree methodology to make this decision.			
Trait			
Decision tree	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to use the decision tree to make the decision. The explanation lacks clarity, depth and technical accuracy.	1 - 2
	Level 2	Demonstrates reasonable understanding of how to use the decision tree to make the decision. The explanation may lack some clarity, depth and / or technical accuracy.	3 - 4
	Level 3	Demonstrates good understanding of how to use the decision tree to make the decision. The explanation is mostly clear, detailed and technically accurate.	5
Limitations	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies one suitable limitation but the explanation lacks clarity and application to the scenario.	1
	Level 2	Identifies at least one suitable limitation. The explanation may lack some clarity and / or application to the scenario.	2 - 3
	Level 3	Identifies two suitable limitations. The explanation is mostly clear and applied to the scenario.	4

Operational Level Case Study November 2022 & February 2023

Marking Guidance

Variant 2

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2022 & February 2023].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	F	Prepare information to manage working capital	40%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	36%
(c)	D		24%
Section 2			
(a)	E	Prepare information to support short-term decision-making	44%
(b)	A	Prepare costing information for different purposes to meet the needs of management	44%
(c)	A		12%
Section 3			
(a)	E	Prepare information to support short-term decision-making	32%
(b)	C	Analyse performance using financial and non-financial information	36%
(c)	B	Prepare budget information and assess its use for planning and control purposes	32%
Section 4			
(a)	C	Analyse performance using financial and non-financial information	36%
(b)	C		16%
(c)	B	Prepare budget information and assess its use for planning and control purposes	48%

SECTION 1

Task (a): Explain what the information in Table 1 indicates about each supplier's approach to working capital management and their suitability to be our machinery supplier.

Trait			
Supplier approach	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates a limited understanding of the working capital management approach of the suppliers. There is little or no reference to the data provided or appraisal of the suppliers' suitability, and the explanation lacks clarity.	1 - 3
	Level 2	Demonstrates some understanding of the working capital management approach of the suppliers. Reference to the data, or the suppliers' suitability may be a little limited and the explanation may lack some clarity.	4 - 7
	Level 3	Demonstrates good understanding of the working capital management approach of the suppliers. The explanations make reference to the data, and the supplier's suitability, and are mostly clear.	8 - 10

SECTION 1 continued			
Task (b): Explain how the expenditure on the machinery shown in Table 2 should be recorded in our statements of financial position and profit or loss for the year ending 30 June 2023.			
Trait			
Recorded	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of accounting for expenditure on machinery. The explanations of how the two machines will be treated in the financial statements lacks technical accuracy and clarity.	1 – 3
	Level 2	Demonstrates general understanding of accounting for expenditure on machinery. The explanation of how the two machines will be treated in the financial statements may lack some technical accuracy and clarity.	4 - 6
	Level 3	Demonstrates general understanding of accounting for expenditure on machinery. The explanation of how the two machines will be treated in the financial statements is mostly technically accurate and clear.	7 - 9
Task (c): Explain how the purchase of the new machine will impact the calculation of the tax payable this year and in future years.			
Trait			
Tax impact	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the impact of the purchase of the new equipment on tax payments. The explanation lacks technical accuracy and clarity.	1 - 2
	Level 2	Demonstrates general understanding of the impact of the purchase of the new equipment on tax payments. The explanation may lack some technical accuracy and clarity.	3 - 4
	Level 3	Demonstrates general understanding of the impact of the purchase of the new equipment on tax payments. The explanation is mostly technically accurate and clear.	5 - 6

SECTION 2

Task (a): Explain how the figures shown in Table 1 would be used to decide which of the cook-boxes we should buy-in and which we should make in-house. Please also explain any other factors we should consider before making a final decision about buying-in the cook-boxes.

Trait			
Use of figures	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the make or buy decision and how it can be applied. The explanation lacks clarity, depth and / or application to the scenario.	1 - 2
	Level 2	Demonstrates limited understanding of the make or buy decision and how it can be applied. The explanation may lack some clarity, depth and / or technical accuracy.	3 - 4
	Level 3	Demonstrates good understanding of the make or buy decision and how it can be applied. The explanation is mostly clear, comprehensive and technically accurate.	5
Other factors	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one factor. The explanation is likely to lack clarity and not refer to the scenario.	1 - 2
	Level 2	Explains at least two factors. The explanation may lack some clarity and may not reference the scenario.	3 - 4
	Level 3	Explains at least three factors. The explanation is clear and references the scenario.	5 - 6

SECTION 2 continued			
Task (b): Explain how adopting an ABC approach would change the way in which production overheads are absorbed in the mechanical assembly process.			
Trait			
ABC	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the differences between an ABC and an absorption costing approach with limited or no reference to the assembly process.	1 – 4
	Level 2	Demonstrates a reasonable understanding of the differences between an ABC and an absorption costing approach with some reference to the assembly process.	5 – 8
	Level 3	Demonstrates good understanding of the differences between an ABC and an absorption costing approach with good reference to the assembly process.	9 – 11
Task (c): Explain how using ABC could improve overall cost control over the mechanical assembly process.			
Trait			
Improving cost control	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the benefits of ABC for cost control but with no reference to the scenario.	1
	Level 2	Demonstrates reasonable understanding of the benefits of ABC for cost control with a reasonable attempt to explain within the context of the scenario.	2
	Level 3	Demonstrates good understanding of the benefits of ABC for cost control with a good attempt to explain its suitability within the context of the scenario.	3

SECTION 3			
Task (a): Explain how the expected values shown in Tables 1 and 2 can be used to make a decision on whether to check every inventory item. Please also explain three limitations of using this information to make the decision.			
Trait			
Expected values	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains some of the information shown by in the expected value tables, and/or gives at least one limitation but the explanations lack clarity and makes little if any reference to the figures shown.	1 – 3
	Level 2	Explains some of the information shown in the expected value tables and explains at least two limitations. The explanations may lack a little clarity.	4 – 6
	Level 3	Explains clearly most of the information shown in the expected value tables and explains three limitations, making good reference to the figures shown.	7 - 8
Task (b): Suggest three KPIs that are appropriate to monitor the performance of the new supplier. Please explain how each KPI would be measured and why it would be appropriate.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies at least one KPI which is appropriate for assessing the performance of the new supplier. The justification / explanation may be missing or lack clarity.	1 - 3
	Level 2	Identifies at least two KPIs which are appropriate for assessing the performance of sales the new supplier. The justification / explanation may lack some clarity or depth.	4 - 6
	Level 3	Identifies at least three KPIs which are appropriate for assessing the performance of sales the new supplier which are well justified and explained for the most part.	7 - 9

SECTION 3 (continued)			
Task (c): Explain how a feedforward control approach differs from a feedback control approach and the benefits to our business of using a feedforward control approach			
Trait			
Differences	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the differences between feedforward and feedback control approaches with limited or no reference to the scenario.	1
	Level 2	Demonstrates a reasonable understanding of the differences between feedforward and feedback control approaches with some reference to the scenario.	2 - 3
	Level 3	Demonstrates good understanding of the differences between feedforward and feedback control approaches with good reference to the scenario.	4
Benefits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one benefit. The explanation is likely to lack clarity and not refer to the scenario.	1
	Level 2	Explains at least two benefits. The explanation may lack some clarity and may not reference the scenario.	2 - 3
	Level 3	Explains at least two benefits. The explanation is mostly clear and effectively references the scenario.	4

SECTION 4			
Task (a): Explain what the sales price, mix and quantity variances mean and the likely reasons they have occurred.			
Trait			
Variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one of the variances with technical accuracy. The explanation of the variances may lack clarity and the reasons for the variances may be missing or not related to the scenario.	1 - 3
	Level 2	Explains at least two of the variances with technical accuracy. The explanation of the variances may lack some clarity. Reasons for the variances will be given but may not always relate to the correct variance or be drawn from the information given in the task.	4 - 6
	Level 3	Explains at least three the three variances with technical accuracy. The explanation is mostly clear, the reasons given relate to the specific variance and are drawn for the information presented in the task for the most part.	7 - 9
Task (b): Explain whether, with regard to the FTG400 model, the decision to introduce the policies can be considered successful.			
Trait			
Success	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited technical understanding of how the policies have impacted the business. The explanation lacks clarity, depth and technical accuracy.	1
	Level 2	Demonstrates some technical understanding of how the policies have impacted the business. The explanation may lack some clarity, depth and / or technical accuracy.	2 - 3
	Level 3	Demonstrates good technical understanding of how the policies have impacted the business. The explanation is mostly clear, comprehensive and technically accurate.	4

SECTION 4 continued			
Task (c): Explain the features of a responsibility accounting system and whether it would be beneficial for Fireworks if the sales managers participated in setting budgets and targets for sales volumes and revenue.			
Trait			
Features	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the features of responsibility accounting but with no reference to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of the features of responsibility accounting with a reasonable attempt to explain within the context of the scenario.	3 - 4
	Level 3	Demonstrates good understanding of the benefits of the features of responsibility accounting with a good attempt to explain its suitability within the context of the scenario.	5
Beneficial	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one factor to consider concerning whether it would be beneficial. The explanation is likely to lack clarity and not refer to the scenario.	1 - 2
	Level 2	Explains at least two factors to consider concerning whether it would be beneficial. The explanation may lack some clarity and may not reference the scenario.	3 - 5
	Level 3	Explains at least three factors to consider concerning whether it would be beneficial. The explanation is clear and references the scenario.	6 - 7

Operational Level Case Study November 2022 & February 2023

Marking Guidance

Variant 3

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2022 & February 2023].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	B	Prepare budget information and assess its use for planning and control purposes	28%
(b)	B		24%
(c)	E	Prepare information to support short-term decision-making	20%
(d)	E		28%
Section 2			
(a)	F	Prepare information to manage working capital	40%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	24%
(c)	C	Analyse performance using financial and non-financial information	36%
Section 3			
(a)	E	Prepare information to support short-term decision-making	28%
(b)	E		20%
(c)	A	Prepare costing information for different purposes to meet the needs of management	52%
Section 4			
(a)	C	Analyse performance using financial and non-financial information	44%
(b)	B	Prepare budget information and assess its use for planning and control purposes	32%
(c)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	24%

SECTION 1			
Task (a): Explain the components which make up a time series analysis.			
Trait			
Components	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the components of time series analysis. The explanation lacks clarity, depth and application to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of the components of time series analysis. The explanation may lack some clarity, depth and /or application to the scenario.	3 - 5
	Level 3	Demonstrates good understanding of the components of time series analysis. The explanation is mostly clear, comprehensive and there is application to the scenario.	6 - 7
Task (b): Explain the limitations of using our past sales data with a time series analysis to forecast future sales volumes.			
Trait			
Limitations	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one limitation. The explanation is likely to lack clarity and not refer to the scenario.	1 - 2
	Level 2	Explains at least two limitations. The explanation may lack some clarity and may not reference the scenario.	3 - 4
	Level 3	Explains at least three limitations. The explanation is mostly clear and effectively references the scenario.	5 - 6

SECTION 1 (continued)			
Task (c): Explain the figures shown in the payoff table.			
Trait			
Payoff table	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains some of the information shown by in the payoff table, but the explanation lacks clarity and makes little if any reference to the figures shown.	1 - 2
	Level 2	Explains some of the information shown in the payoff table and does make reference to the figures shown. The explanation may lack a little clarity.	3 - 4
	Level 3	Explains clearly most of the information shown in the payoff table and makes good reference to the figures shown.	5
Task (d): Explain how the maximax, maximin, and minimax regret decision criteria would be used to select the selling price, stating the selling price that would be chosen under each criterion.			
Trait			
Decision criteria	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding of at least one of the decision criteria. The explanation lacks clarity and the correct selling prices may not be identified.	1 - 2
	Level 2	Demonstrates understanding of at least two of the decision criteria. The explanation may lack clarity and the correct selling prices may not all be identified	3 - 5
	Level 3	Demonstrates understanding of the decision criteria. The explanation is mostly clear and the correct selling prices are mainly identified	6 - 7

SECTION 2

Task (a): Explain the actions we could take to manage our cash and working capital more effectively and so avoid a cash deficit arising, including any potential implications of these actions.

Trait			
Potential actions	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the actions available to manage working capital and avoid cash deficits but with no reference to the scenario.	1 - 3
	Level 2	Demonstrates reasonable understanding of the actions available to manage working capital and avoid cash deficits with a reasonable attempt to explain their suitability within the context of the scenario.	4 - 7
	Level 3	Demonstrates good understanding of the of the actions available to manage working capital and avoid cash deficits with a good attempt to explain their suitability within the context of the scenario.	8 - 10

SECTION 2 (continued)			
Task (b): Explain how the right-of-use asset will initially be measured and how it will impact our financial statements for the year ending 30 June 2023.			
Trait			
Initially measured	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially measure a right-of-use asset. The explanation lacks clarity and does not include all elements of the right-of use asset's initial amount.	1
	Level 2	Demonstrates reasonable understanding of how to initially measure a right-of-use asset. The explanation may lack some clarity or may not include all elements of the right-of use asset's initial amount.	2
	Level 3	Demonstrates good understanding of how to initially measure a right-of-use asset. The explanation is clear and does include all elements of the right-of use asset's initial amount.	3
Impact	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the right-of-use asset will impact the financial statements. The explanation lacks clarity and depth and may contain technical inaccuracies.	1
	Level 2	Demonstrates reasonable understanding of how the right-of-use asset will impact the financial statements. The explanation may lack some clarity and / or depth or may contain some technical inaccuracies.	2
	Level 3	Demonstrates good understanding of how the right-f-use asset will impact the financial statements. The explanation is clear, comprehensive and technically accurate.	3

SECTION 2 (continued)			
Task (c): Suggest three KPIs, suitable for appraising the success of our website in generating sales, explaining how each would be measured and why they would be appropriate.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies at least one KPI which is appropriate for assessing the performance of sales via the website. The justification / explanation may be missing or lack clarity.	1 - 3
	Level 2	Identifies at least two KPIs which are appropriate for assessing the performance of sales via the website. The justification / explanation may lack some clarity or depth.	4 - 6
	Level 3	Identifies three KPIs which are appropriate for assessing the performance of sales via the website which are well justified and explained for the most part.	7 - 9

SECTION 3			
Task (a): Explain , with clear justifications, whether each of the costs in the attached schedule and accompanying notes is relevant for determining the minimum price.			
Trait			
Relevant costs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of relevant costs. Identifies correctly some of the costs as either relevant or irrelevant, but the justification is either missing or not clearly explained.	1 - 3
	Level 2	Demonstrates reasonable understanding of relevant costs Identifies correctly some of the costs as either relevant or irrelevant, but the justification s may lack some clarity, depth and/or application to the scenario.	4 - 5
	Level 3	Demonstrates good understanding of relevant costs Identifies correctly most of the costs as either relevant or irrelevant. The justifications are mostly clear, comprehensive and there is good application to the scenario.	6 - 7
Task (b): Explain whether a relevant cost approach to price setting would be appropriate in this situation.			
Trait			
Approach	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides limited explanation of the appropriateness of a relevant costing approach in this situation. There is little or no reference to the scenario and the explanation lacks clarity.	1 - 2
	Level 2	Provides some explanation of the appropriateness of a relevant costing approach in this situation. Reference to the scenario may be a little limited and the explanation may lack some clarity.	3 - 4
	Level 3	Provides good explanation of the appropriateness of a relevant costing approach in this situation. The explanation makes reference to the scenario and is mostly clear.	5

SECTION 3 (continued)			
Task (c): Explain the differences between the profit statements, and the profits they show, in each of the two weeks. Please also explain the benefits to our business of using an absorption costing approach.			
Trait			
Differences	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates a limited understanding of the differences between the profit statements and profits they show with limited or no reference to the data given.	1 - 3
	Level 2	Demonstrates a reasonable understanding of the differences between the profit statements and profits they show with some reference to the data given.	4 - 5
	Level 3	Demonstrates good understanding of the differences between the profit statements and the profits they show with good reference to the data given.	6 - 7
Benefits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one benefit. The explanation is likely to lack clarity and not refer to the scenario.	1 - 2
	Level 2	Explains at least two benefits. The explanation may lack some clarity and may not reference the scenario.	3 - 4
	Level 3	Explains at least three benefits. The explanation is clear and references the scenario.	5 - 6

SECTION 4			
Task (a): Explain the meaning of each of the fixed production overheads variances shown in Table 1, including the possible reasons why the variance has occurred and whether it provides management with useful information.			
Trait			
Meaning	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one of the variances with technical accuracy. The explanation of the variances may lack clarity and the reasons for the variances may be missing or not related to the scenario.	1 - 3
	Level 2	Explains at least two of the variances with technical accuracy. The explanation of the variances may lack some clarity. Reasons for the variances will be given but may not always relate to the correct variance or be drawn from the information given in the task.	4 - 6
	Level 3	Explains at least three the three variances with technical accuracy. The explanation is mostly clear, the reasons given relate to the specific variance and are drawn for the information presented in the task for the most part.	7 - 8
Usefulness	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the usefulness of the variances. The explanations lack clarity, depth and / or application to the scenario.	1
	Level 2	Demonstrates some understanding of the usefulness of the variances. The explanations may lack some clarity, depth and / or technical accuracy.	2
	Level 3	Demonstrates good technical understanding of the usefulness of the variances. The explanations are mostly clear, comprehensive and technically accurate.	3

SECTION 4 (continued)			
Task (b): Explain how the principles of a 'beyond budgeting' approach might apply to the Packing Department, and the benefits for FireWorks of using a 'beyond budgeting' approach.			
Trait			
Beyond budgeting	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one principle or benefit. Demonstrates some understanding of the principles and /or benefits of beyond budgeting but with no reference to the scenario.	1 - 3
	Level 2	Explains at least two principle or benefits. Demonstrates reasonable understanding of the principles and /or benefits of beyond budgeting with a reasonable attempt to explain within the context of the scenario.	4 - 6
	Level 3	Explains at least two principle or benefits. Demonstrates good understanding of the principles and /or benefits of beyond budgeting with a good attempt to explain its suitability within the context of the scenario.	7 - 8
Task (c): Explain how each issue should be treated in our financial statements for the year ended 30 June 2023.			
Trait			
Issues	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of adjusting/non-adjusting events. The explanation of how the two events will be treated in the financial statements lacks technical accuracy and clarity.	1 - 2
	Level 2	Demonstrates general understanding of adjusting/non-adjusting events. The explanation of how the two events will be treated in the financial statements may lack some technical accuracy and clarity.	3 - 4
	Level 3	Demonstrates general understanding of adjusting/non-adjusting events. The explanation of how the two events will be treated in the financial statements is mostly technically accurate and clear.	5 - 6

Operational Level Case Study November 2022 & February 2023

Marking Guidance

Variant 4

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2022 & February 2023].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	C	Analyse performance using financial and non-financial information.	36%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	28%
(c)	E	Prepare information to support short-term decision making.	36%
Section 2			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	32%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	32%
(c)	C	Analyse performance using financial and non-financial information.	36%
Section 3			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	36%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	16%
(c)	A	Prepare costing information for different purposes to meet the needs of management.	48%
Section 4			
(a)	E	Prepare information to support short-term decision making.	36%
(b)	E	Prepare information to support short-term decision making.	24%
(c)	F	Prepare information to manage working capital.	40%

SECTION 1			
Task (a): Explain what each of the four variances in Table 1 means and possible reasons for their occurrence.			
Trait			
Variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates technical understanding of what at least one of the variances means. The explanation lacks clarity and the reasons given may not relate to the correct variance or be drawn from the scenario.	1 - 3
	Level 2	Demonstrates technical understanding of what at least two of the variances mean. The explanation may lack some clarity and the reasons given may not always relate to the correct variance or be drawn from the scenario.	4 - 6
	Level 3	Demonstrates technical understanding of what at least three variances mean. The explanation is mostly clear, and the reasons given mostly relate to the correct variance and are drawn from the scenario. There is some attempt to link the variances together.	7 - 9
Task (b): Explain what is meant by a feedback control system and how it is applied in our business, using the variances in Table 1 to illustrate your explanation.			
Trait			
Feedback control	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of a feedback control system. The explanation lacks clarity, depth and application to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of a feedback control system. The explanation may lack some clarity, depth and /or application to the scenario.	3 - 5
	Level 3	Demonstrates good understanding of a feedback control system. The explanation is mostly clear, detailed and applied to the scenario.	6 - 7

SECTION 1 (continued)			
Task (c): Explain what the chart tells us about break-even and margin of safety based on the revised budget. Please also explain how the chart and break-even position would be affected by the changes (a) and (b) above, considering the impact for each change independently of each other.			
Trait			
Break-even & MOS	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of what the chart indicates about break-even and margin of safety. The explanation lacks clarity and reference to the information given in the scenario.	1
	Level 2	Demonstrates reasonable understanding of what the chart indicates about break-even and margin of safety. The explanation may lack some clarity and reference to the information given in the scenario.	2
	Level 3	Demonstrates good understanding of what the chart indicates about break-even and margin of safety. The explanation is mostly clear and references the information given in the scenario.	3
Changes	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains with some accuracy how the chart and break-even position will change for one of the changes. The explanation lacks clarity and reference to the information in the scenario.	1 - 2
	Level 2	Explains with reasonable accuracy how the chart and break-even position will change for at least one of the changes. The explanation may lack some clarity and reference to the information in the scenario.	3 - 4
	Level 3	Explains with good accuracy how the chart and break-even position will change for both of the changes. The explanation is mostly clear and makes reference to the information in the scenario.	5 - 6

SECTION 2			
Task (a): Explain how a ZBB approach can be applied to create a budget for the new on-site café service.			
Trait			
ZBB	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to apply a ZBB approach in a general sense. The explanation lacks clarity, depth and there is only a limited attempt to apply the approach to creating a budget for the new on-site cafe service.	1 - 3
	Level 2	Demonstrates reasonable understanding of how to apply a ZBB approach in a general sense. The explanation may lack some clarity and depth. There is a reasonable attempt to apply the approach to creating a budget for the new on-site cafe service.	4 - 6
	Level 3	Demonstrates good understanding of how to apply a ZBB approach in a general sense. The explanation is mostly clear and detailed. There is a good attempt to apply the approach to creating a budget for the new on-site cafe service.	7 - 8

SECTION 2 (continued)			
Task (b): Explain two benefits to the business and two challenges that we might face when using a ZBB approach to create this budget.			
Trait			
Benefits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one benefit. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one benefit. The explanation may lack some clarity and /or application to the scenario.	2 - 3
	Level 3	Explains at least two benefits. The explanation is mostly clear and applied to the scenario.	4
Challenges	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one challenge. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one challenge. The explanation may lack some clarity and /or application to the scenario.	2 - 3
	Level 3	Explains at least two challenges. The explanation is mostly clear and applied to the scenario.	4

SECTION 2 (continued)			
Task (c): Suggest three KPIs that are appropriate to monitor the performance of the new on-site cafe. Please explain how each KPI would be measured and why it would be appropriate.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Suggests at least one KPI that is appropriate to monitor the performance of the new on-site cafe. The explanation of how the KPI(s) would be measured and why it(they) would be appropriate lacks clarity, depth and application to the scenario.	1 - 3
	Level 2	Suggests at least two KPIs that are appropriate to monitor the performance of the new on-site cafe. The explanation of how the KPIs would be measured and why they would be appropriate may lack some clarity, depth and / or application to the scenario.	4 - 6
	Level 3	Suggests three KPI that are appropriate to monitor the performance of the new on-site cafe. The explanation of how the KPIs would be measured and why they would be appropriate is mostly clear and applied to the scenario.	7 - 9

SECTION 3			
Task (a): Explain how the lease for pressing equipment will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2023.			
Trait			
Right-of-use asset	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially and subsequently measure the right-of-use asset. The explanation lacks technical accuracy, depth and application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of how to initially and subsequently measure the right-of-use asset. The explanation may lack some technical accuracy, depth and / or application to the scenario.	2 - 3
	Level 3	Demonstrates good understanding of how to initially and subsequently measure the right-of-use asset. The explanation is technically accurate, comprehensive and applied to the scenario.	4
Lease liability	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially and subsequently measure the lease liability. The explanation lacks technical accuracy, depth and application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of how to initially and subsequently measure the lease liability. The explanation may lack some technical accuracy, depth and / or application to the scenario.	2 – 3
	Level 3	Demonstrates good understanding of how to initially and subsequently measure the lease liability. The explanation is technically accurate, comprehensive and applied to the scenario.	4

SECTION 3 (continued)			
Task (b): Explain how to account for the damaged welding equipment in our financial statements for the year ending 30 June 2023.			
Trait			
Damaged equipment	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to account for the damaged welding equipment. The explanation lacks technical accuracy, depth and application to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of how to account for the damaged welding equipment. The explanation may lack some technical accuracy, depth and / or application to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of how to account for the damaged welding equipment. The explanation is technically accurate, comprehensive and applied to the scenario.	5

SECTION 3 (continued)

Task (c): Explain the type, nature and cost behaviour of the future costs associated with the app. Please also explain the difficulties associated with establishing a cost per download of the app.

Trait			
Future costs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the type, nature and cost behaviour of the future costs associated with the app. The explanation lacks clarity and application to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of the type, nature and cost behaviour of the future costs associated with the app. The explanation lacks some clarity and / or application to the scenario.	3 - 4
	Level 3	Demonstrates good understanding of the type, nature and cost behaviour of the future costs associated with the app. The explanation is mostly clear and applied to the scenario.	5 - 6
Difficulties	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one difficulty of establishing a cost per download of the app. The explanation may lack clarity and / or application to the scenario.	1 - 2
	Level 2	Explains at least two difficulties of establishing a cost per download of the app. The explanation may lack some clarity and / or application to the scenario.	3 - 4
	Level 3	Explains at least three difficulties of establishing a cost per download of the app. The explanation is mostly clear and applied to the scenario.	5 - 6

SECTION 4

Task (a): Explain how the decision about which potential contract to choose will be made using a risk neutral, risk seeking and risk averse approach, stating the choice made under each approach. For each approach, please include one limitation of using the approach to make this decision.

Trait			
Risk neutral	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains, how to make the decision, although this explanation may lack clarity and the correct decision may not be given. Any limitation is unlikely to be relevant for this decision-making approach.	1
	Level 2	Explains how to make the decision, although the explanation may lack a little clarity, however, the correct decision is likely to be given. The limitation given may not be relevant for this decision-making approach.	2
	Level 3	Explains, with clarity, how to make the decision and the correct decision is given. The limitation is sensible in the context of this decision-making approach.	3
Risk seeking	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains, how to make the decision, although this explanation may lack clarity and the correct decision may not be given. Any limitation is unlikely to be relevant for this decision-making approach.	1
	Level 2	Explains how to make the decision, although the explanation may lack a little clarity, however, the correct decision is likely to be given. The limitation given may not be relevant for this decision-making approach.	2
	Level 3	Explains, with clarity, how to make the decision and the correct decision is given. The limitation is sensible in the context of this decision-making approach.	3

SECTION 4 (continued)			
Task (a): Explain how the decision about which potential contract will be made using a risk neutral, risk seeking and risk averse approach, stating the choice made under each approach. For each approach, please include one limitation of using the approach to make this decision.			
Risk averse	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains, how to make the decision, although this explanation may lack clarity and the correct decision may not be given. Any limitation is unlikely to be relevant for this decision-making approach.	1
	Level 2	Explains how to make the decision, although the explanation may lack a little clarity, however, the correct decision is likely to be given. The limitation given may not be relevant for this decision-making approach.	2
	Level 3	Explains, with clarity, how to make the decision and the correct decision is given. The limitation is sensible in the context of this decision-making approach.	3
Task (b): Explain , based on the information in Tables 1 and 2, how the risk attitude of the SMT will impact on its willingness to pay for the perfect information.			
Trait			
Perfect info	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the value of perfect information. Explanation of how risk attitudes affect the willingness to pay lacks clarity, depth and application to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of the value of perfect information. Explanation of how risk attitudes affect the willingness to pay lack some clarity, depth and application to the scenario.	3 - 4
	Level 3	Demonstrates good understanding of the value of perfect information. The explanation of how risk attitudes affect the willingness to pay is mostly clear and applied to the scenario.	5 - 6

SECTION 4 (continued)

Task (c): Explain the factors to be considered when setting credit limits for SmartCook and OutsideLiving, using the information in Table 4.

Trait			
Credit limits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the factors to consider when setting credit limits but fails to use the information in the scenario to explain those factors. The explanation lacks clarity and is generic rather than applied.	1 - 3
	Level 2	Demonstrates reasonable understanding of the factors to consider when setting credit limits and does attempt to use the information in the scenario to explain those factors. The explanation may lack some clarity.	4 - 7
	Level 3	Demonstrates good understanding of the factors to consider when setting credit limits and makes a good attempt to use the information in the scenario to explain those factors. The explanation is mostly clear.	8 - 10

Operational Level Case Study November 2022 & February 2023

Marking Guidance

Variant 5

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2022 & February 2023].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	52%
(b)	B		48%
Section 2			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	52%
(b)	E	Prepare information to support short-term decision-making	48%
Section 3			
(a)	F	Prepare information to manage working capital	36%
(b)	A	Prepare costing information for different purposes to meet the needs of management	28%
(c)	E	Prepare information to support short-term decision-making	36%
Section 4			
(a)	C	Analyse performance using financial and non-financial information	36%
(b)	C		40%
(c)	A	Prepare costing information for different purposes to meet the needs of management	24%

SECTION 1			
Task (a): Explain what a rolling budget is and the potential benefits and drawbacks of adopting rolling budgets throughout the business.			
Trait			
Benefits	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Demonstrates weak understanding of how a rolling budget operates and offers little in terms of the benefits of rolling budgets. No application to the company or specific scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of how a rolling budget operates and explains some of the benefits. Limited application to the company or specific scenario.	4 – 6
	Level 3	Demonstrates good understanding of how a rolling budget operates and explains a range of benefits. Good application to the company or specific scenario.	7 - 8
Drawbacks	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Demonstrates weak understanding of the drawbacks of rolling budgets. No application to the company or specific scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of the drawbacks of rolling budgets. Limited application to the company or specific scenario.	3 - 4
	Level 3	Demonstrates good understanding of the drawbacks of rolling budgets. Good application to the company or specific scenario.	5

SECTION 1 (continued)			
Task (b): Explain what the time series information in Schedule 1 tells us about demand for Udenfor cookery classes in North America and the usefulness of this information for the purpose of planning our new GrillSkill initiative.			
Trait			
Trend and seasonal	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Explains trend and / or seasonal variations with some accuracy. The explanation lacks clarity and makes little reference to the scenario.	1 - 2
	Level 2	Explains trend and seasonal variations with reasonable accuracy. The explanation may lack some clarity but makes some attempt to reference the scenario.	3 - 4
	Level 3	Explains trend and seasonal variations with accuracy. The explanation is largely clear and makes good reference to the scenario.	5 - 6
Usefulness	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Explains at least one factor affecting the usefulness of the time series information (positively or negatively). The explanation may lack clarity.	1 - 2
	Level 2	Explains at least two factors affecting the usefulness of the time series information (positively or negatively). The explanation may lack some clarity.	3 - 4
	Level 3	Explains at least three factors affecting the usefulness of the time series which cover positive and negative factors. The explanation is clear.	5 - 6

SECTION 2			
Task (a): Explain , with appropriate justification, how each item included in Table 1 will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2023.			
Trait			
Truck	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Demonstrates a weak technical understanding of the requirements of IAS 16. Explains with limited technical accuracy how the expenditure on the truck will be initially recorded and subsequently measured. The explanation lacks clarity and depth.	1 – 3
	Level 2	Demonstrates a reasonable technical understanding of the requirements of IAS 16. Explains with reasonable technical accuracy, how the expenditure on the truck will be initially recorded and subsequently. The explanation may lack some clarity and / or depth.	4 – 6
	Level 3	Demonstrates a good technical understanding of the requirements of IAS 16. Explains with reasonable technical accuracy, how the expenditure on the truck will be initially recorded and subsequently. The explanation is mostly clear and comprehensive.	7 – 8
Grills & training	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Explains with limited technical accuracy, how the expenditure on grills and training will be recorded in the financial statements. The explanation lacks clarity and depth.	1 – 2
	Level 2	Explains with reasonable technical accuracy, how the expenditure on grills and training will be recorded in the financial statements. The explanation may lack some clarity and / or depth.	3 – 4
	Level 3	Explains with good technical accuracy, how the expenditure on grills and training will be recorded in the financial statements. The explanation is mostly clear and comprehensive.	5

SECTION 2 (continued)			
Task (b): Explain what Line A on Chart 1 indicates about the GrillSkill budget, breakeven and margin of safety. Please also explain the reasons for and implications of the differences between lines A and B.			
Trait			
Line A	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Demonstrates some understanding of the multi-product profit-volume chart. The answer makes some attempt to explain line A and /or identify the break-even point but lacks clarity. Margin of safety unlikely to be commented on.	1 - 2
	Level 2	Demonstrates reasonable understanding of the multi-product profit-volume chart. The answer explains what line A represents with reference to the scenario and identifies the break-even point, but the explanation sometimes lacks clarity. Margin of safety may not be commented on.	3 - 4
	Level 3	Demonstrates good understanding of the multi-product profit-volume chart. The answer is comprehensive, clearly explains what line A represents with reference to the scenario and identifies the break-even point. Margin of safety is commented on.	5 - 6
Line B	Level.	Descriptor	Marks
		No rewardable material	
	Level 1	Demonstrates some understanding of what Line B represents in terms of break-even position but little attempt is made to compare Line B to Line A. Explanation is likely to be brief and lack clarity.	1 - 2
	Level 2	Demonstrates reasonable understanding of what line B represents in terms of break-even position and overall revenue and profit for the change in delegate numbers. Makes some attempt to compare Line B to line A to establish the impact of the differences in delegate number and resulting C/S ratios. Explanation may lack clarity.	3 - 4
	Level 3	Demonstrates clear understanding of what line B represents in terms of break-even position and overall revenue and profit for the change in delegate numbers. Makes a good attempt to compare Line B to line A to establish the impact of the differences delegate numbers and resulting C/S ratios. Explanation is mostly clear.	5 - 6

SECTION 3

Task (a): Explain, for each of the three potential suppliers, what the information contained in Table 1 indicates about their approach to working capital management. Please also comment on their suitability as our probe supplier.

Trait	Level	Descriptor	Marks
Working capital		No rewardable material	
	Level 1	Demonstrates some understanding of the working capital position of the probe suppliers based on the information given. The explanation lacks clarity and does not necessarily comment on what the working capital position indicates about the approach taken to working capital management. There is likely to be little if any reference to their suitability.	1 - 3
	Level 2	Demonstrates reasonable understanding of the working capital position of the probe suppliers based on the information given. The explanation may lack some clarity and may not comment on what the working capital position indicates about the approach taken to working capital management. There will be some reference to their suitability.	4 - 6
	Level 3	Demonstrates good understanding of the working capital position of the probe suppliers based on the information given. The explanation is mostly clear and makes an attempt to comment on what the working capital position indicates about the approach taken to working capital management. There is reference to their suitability.	7 - 9

SECTION 3 (continued)			
Task (b): Explain how the costs of the smartphone app differ, specifically in terms of the type of costs and the timing of their occurrence, compared to the costs of the probes.			
Trait			
Smartphone app	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Demonstrates some understanding of how the costs differ. Explanation is likely to be brief and lack clarity.	1 - 2
	Level 2	Demonstrates reasonable understanding of how the costs differ in terms of nature and timing. Some reasonable attempt at application. Explanation may lack clarity.	3 - 5
	Level 3	Demonstrates clear understanding of how the costs differ in terms of nature and timing. May indicate further understanding with the issues of determining the unit cost of an app. A good attempt at application. Explanation is mostly clear.	6 - 7
Task (c): Explain the relevant cost of each item in Table 2 in order to help the SMT make the decision about whether or not to give gifts to guests at the launch-party.			
Trait			
Relevant costs	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Identifies correctly whether a few of the costs would be relevant or irrelevant to the decision. In most cases the explanation lacks clarity or are incorrect.	1 – 3
	Level 2	Identifies and correctly explains whether most of the costs would be relevant or irrelevant to the decision. Some of the explanations lack clarity or are inaccurate.	4– 6
	Level 3	Identifies and correctly explains whether all of the costs would be relevant or irrelevant to the decision. Explanations are mostly clear and accurate.	7 – 9

SECTION 4			
Task (a): Explain possible reasons why the KPIs in schedule 1 have been achieved. Please also explain why the KPIs provide useful information about GrillSkill classes.			
Trait	Trait		
KPIs	KPIs	KPIs	KPIs
		No rewardable material	
	Level 1	Explains the meaning of the sales variances with some technical accuracy but with limited explanation of how these variances have arisen.	1 - 3
	Level 2	Explains the meaning of the sales variances with reasonable technical accuracy. Gives reasonable explanations of the reasons why these variances have occurred mainly drawn from the information given in the scenario.	4 - 6
	Level 3	Explains the meaning of the sales variances with technical accuracy. Gives good explanations of the reasons why these variances have occurred clearly drawn for the information presented in the scenario.	7 - 9
Task (b): Explain the meaning of each of the sales variances for the Grillskill classes in schedule 1 and possible reasons why they have arisen.			
Trait	Trait		
Variances	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Explains the meaning of the sales variances with some technical accuracy but with limited explanation of how these variances have arisen.	1 - 3
	Level 2	Explains the meaning of the sales variances with reasonable technical accuracy. Gives reasonable explanations of the reasons why these variances have occurred mainly drawn from the information given in the scenario.	4 - 7
	Level 3	Explains the meaning of the sales variances with technical accuracy. Gives good explanations of the reasons why these variances have occurred clearly drawn for the information presented in the scenario.	8 - 10

SECTION 4 (continued)

Task (c): Explain the over absorption figures in the absorption costing profit statements in schedule 2. Please also explain why the profit figures are the same for both absorption and marginal costing and whether this is likely to always be the case for GrillSkill.

Trait			
Profit statements	Level	Descriptor	Marks
		No rewardable material	
	Level 1	Provides some explanation of either the overabsorption or reason profit is likely to be the same. The explanation lacks clarity or is incorrect.	1 – 2
	Level 2	Provides reasonable explanation of the overabsorption and/or reason profit is likely to be the same. Either of the explanations may lack clarity or are inaccurate.	2– 4
	Level 3	Provides good explanation of the overabsorption and reason profit is likely to be the same. Explanations are clear and accurate.	5 – 6

Operational Level Case Study November 2022 & February 2023

Marking Guidance

Variant 6

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2022 & February 2023].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	28%
(b)			24%
(c)	A	Prepare costing information for different purposes to meet the needs of management	48%
Section 2			
(a)	E	Prepare information to support short-term decision-making.	32%
(b)	C	Analyse performance using financial and non-financial information	36%
(c)	B	Prepare budget information and assess its use for planning and control purposes.	32%
Section 3			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	48%
(b)	E	Prepare information to support short-term decision-making	32%
(c)			20%
Section 4			
(a)	C	Analyse performance using financial and non-financial information	36%
(b)	C	Analyse performance using financial and non-financial information	20%
(c)	F	Prepare information to manage working capital	44%

SECTION 1			
Task (a): Explain the advantages and disadvantages to FireWorks of using a participative approach to budget setting for the new operations in Geeland.			
Trait			
Participative budgeting	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates weak understanding of participative budgeting. May only explain generic advantages or disadvantages of the approach. No application to the company or specific scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of participative budgeting. Will explain both advantages and disadvantages of the approach. Limited application to the company or specific scenario.	3 – 5
	Level 3	Demonstrates good understanding of participative budgeting. Will explain both advantages and disadvantages of the approach. Good application to the company or specific scenario.	6 - 7
Task (b): Explain the importance of a Geeland sales forecast for planning and coordination within FireWorks.			
Trait			
Planning/coordination	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains the role of the sales forecast in the planning and/or coordination but, the explanation may lack clarity and application to the scenario.	1 - 2
	Level 2	Explains the role of the sales forecast in the planning and coordination of FireWorks production departments with reasonable clarity.	3 - 4
	Level 3	Explains the role of the sales forecast in the planning and coordination of FireWorks production departments with good application and clarity.	5 - 6

SECTION 1 (continued)			
Task (c): Produce answers to the three specific questions posed by the Geeland sales managers, addressing any misunderstandings in relation to the issues raised.			
Trait			
Question 1	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates a weak understanding why AC reported profit is higher when inventories increase. Little or no application to the case.	1 - 2
	Level 2	Demonstrates a reasonable understanding why AC reported profit is higher when inventories increase. Some reasons why the approach is unrealistic and application to the case but, lacks clarity.	3 - 4
	Level 3	Demonstrates a good understanding why AC reported profit is higher when inventories increase. Offers good and clear reasons why the approach is unrealistic and good application to the case.	5
Question 2 & 3	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies only one of the incorrect assumptions and demonstrates only a weak understanding of the costs. The benefits and drawbacks lack application to the case and the explanation lacks clarity.	1 - 2
	Level 2	Identifies some of the incorrect assumptions and demonstrates a reasonable understanding of the costs presented. The benefits and drawbacks are applied to the case with reasonable clarity.	3 - 5
	Level 3	Identifies most/all of the incorrect assumptions and demonstrates a good understanding of the costs presented. The benefits and drawbacks have good application to the case and all points are clearly made.	6 - 7

SECTION 2

Task (a): Explain how we could use maximax, maximin and minimax regret decision criteria to decide which of the couriers we should choose. Please also state which courier would be selected under each criterion.

Trait			
Courier decision	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrate a weak technical understanding of the decision criteria and how they are applied. The explanations given may lack clarity and/or the couriers selected are incorrect.	1 – 3
	Level 2	Demonstrate a reasonable technical understanding of the decision criteria and how they are applied. There may be a few inaccuracies in the explanations and/or one or more of the couriers selected are incorrect.	4 – 6
	Level 3	Demonstrate a good technical understanding of the decision criteria and how they are applied. The explanation given is technically correct and the correct couriers are selected.	7 – 8

Task (b): Suggest three KPIs, which could be used to assess the performance of the courier service in Geeland, explaining how each would be measured and why each would be appropriate.

Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides at least one appropriate KPI, an explanation of how it would be measured and why it is appropriate lacks clarity.	1 – 3
	Level 2	Provides more than one appropriate KPI, an explanation of how they would be measured and why they would be appropriate lacks some clarity.	4 – 6
	Level 3	Provides three appropriate KPIs with good explanations given of how they would be measured and why they would be appropriate.	7 - 9

SECTION 2 (continued)			
Task (c): Explain why the two scenarios in Table 3 have different impacts on the original budgeted contribution and profit. Please also explain two limitations of the what-if analysis in this situation.			
Trait			
What-if	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of what-if analysis.	1
	Level 2	Demonstrates reasonable understanding of what-if analysis and explains the figures in schedule 1 with reasonable accuracy.	2 - 3
	Level 3	Demonstrates comprehensive understanding of what-if analysis and explains the figures in schedule 1 accurately.	4
Limitations	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one of the limitations of the analysis although this may be limited to a generic point, rather than linked to the scenario.	1
	Level 2	Explanation of the limitations of the analysis may be limited to 1 limitation and/or a generic rather than linked to the scenario.	2 - 3
	Level 3	Explains two key limitations that other variables may be affected, and it ignores the probability of occurrence in the context of the scenario.	4

SECTION 3			
Task (a): Explain how the financial statements for the year ended 30 June 2023 will be affected by the faulty charcoal grills. Please make reference to IAS10: Events after the Reporting Period and IAS 2: Inventories.			
Trait			
IAS 10	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains and applies the principles of IAS 10 to the scenario but the explanation may lack clarity.	1 - 2
	Level 2	Explains and applies the principles of IAS 10, with reasonable accuracy and clarity.	3 - 4
	Level 3	Explains and applies the principles of IAS 10 with full accuracy and clarity.	5
IAS 2	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains some of the principles of IAS 2 but the explanation may lack clarity. Does not apply the principles to the scenario.	1 - 2
	Level 2	Explains most of the principles of IAS 2, with a reasonable accuracy and clarity. The principles have some application to the scenario and most issues are addressed.	3 - 5
	Level 3	Explains IAS 2 principles with accuracy and clarity. The principles are applied to the scenario and all issues are addressed.	6 - 7

SECTION 3 (continued)			
Task (b): Explain how to use Graph 1 to determine the optimum production plan and identify what the optimum production plan is. Assuming we cannot source additional resources, also explain one other factor we should consider before proceeding with the optimal production plan.			
Trait			
LP Graph	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains some aspects of the graph but with a lack of clarity. The optimal solution may not have been stated or has been incorrectly identified based on the explanation of the feasible region. The explanation of the other factor may not have been addressed or may lack clarity.	1 – 3
	Level 2	Explains the feasible region with reasonable accuracy and identifies the optimal solution based on this explanation. Explanation of the other factor may lack depth and clarity.	4 – 6
	Level 3	Explains clearly and accurately the feasible region on the graph and identifies the correct optimal solution. The explanation of the other factor is accurate and clear.	7 - 8
Task (c): Explain how we could use the graph to determine how many assembly overtime hours we should pay for and how we could use the assembly hours shadow price to determine the maximum overtime premium per hour we should pay.			
Trait			
Overtime premium	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains either the amount of labour hours needed and/or the overtime premium rate. Explanation lacks clarity and understanding.	1 - 2
	Level 2	Explains both the amount of labour hours needed and the overtime premium rate. Explanation demonstrates reasonable understanding.	3 - 4
	Level 3	Explains both the amount of labour hours needed and the overtime premium rate. Explanation demonstrates good understanding.	5

SECTION 4			
Task (a): Explain what each of the variances in Schedule 1 shows and the reasons why they may have arisen.			
Trait			
Sales variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains what the sales variances show with some technical accuracy but with limited explanation of how these variances have arisen.	1 - 3
	Level 2	Explains what the sales variances show with reasonable technical accuracy. Gives reasonable explanations of the reasons why most of these variances have occurred mainly drawn from the information given in the scenario.	4 - 6
	Level 3	Explains what the sales variances show with technical accuracy. Gives good explanations of the reasons why these variances have occurred and their possible interrelationships. Explanations are clearly drawn from the information presented in the scenario.	7 - 9
Task (b): Explain one potential advantage and one potential disadvantage of separating the August sales variances into planning and operational elements.			
Trait			
Planning and operational	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides a weak explanation of one advantage and/or one disadvantage of separating the sales variances into planning and operational elements. Little/no application to the scenario.	1 – 2
	Level 2	Provides a reasonable explanation of one advantage and/or one disadvantage of separating the sales variances into planning and operational elements. Reasonable application to the scenario.	3 – 4
	Level 3	Provides a good explanation of one advantage and one disadvantage of separating the sales variances into planning and operational elements. Good application to the scenario.	5

SECTION 4 (continued)			
Task (c): Explain the potential benefits and drawbacks of (i) using a Geeland factoring company and (ii) retaining the credit control function in Beeland and offering a prompt payment discount, to the retail customers in Geeland. Please also suggest which option is the most suitable.			
Trait			
Factoring	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides a weak explanation of the benefits and disadvantages of factoring. Little or no reference to the financial benefits and costs. No/ limited application to the scenario	1 - 2
	Level 2	Provides a reasonable explanation of the benefits and disadvantages of factoring. Some reference to the financial benefits and costs. Some application to the scenario	3 - 5
	Level 3	Provides a good explanation of the benefits and advantages of factoring. Detailed reference to the financial benefits and costs. Good application to the scenario and reference to why it is the best choice.	6 - 7
Prompt payment discount	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides a weak explanation of the benefits and disadvantages of the prompt payment discount. No/ limited application to the scenario	1
	Level 2	Provides a reasonable explanation of the benefits and disadvantages of the prompt payment discount. Some application to the scenario	2 - 3
	Level 3	Provides a good explanation of the benefits and advantages of the prompt payment discount. Good application to the scenario and reference to why it is not the best choice.	4