



International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Business Management

Higher and Standard level

Specimen papers 1, 2 and 3

For first examinations in 2024

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Business management
Pre-released statement: Mapping Tech Ltd.

For use with specimen examination papers

Instructions to candidates

- Pre-released statement required for higher level paper 1 and standard level paper 1 business management examinations.

This statement, released three months prior to the examination, notifies candidates of topics and terminology not in the *Business management guide* that will be in the case study in the final examination. Candidates are to spend a maximum of five hours researching these topics and learning the terminology. Topics in this statement build on those contained in the syllabus. The primary aim is to assess candidates knowledge of important contemporary business topics that could not have been anticipated when the guide was written.

The case study for the specimen papers is related to:

- precision agriculture
- the use of drones
- software and hardware development and sales.

Candidates are expected to have some basic familiarity with these topics, rather than comprehensive or exhaustive knowledge.

Additional terminology that candidates may want to know includes:

- aerial mapping
- cloud-based licensed software
- consultant
- hardware
- licensing agreement
- multispectral camera
- patch (a software patch)
- project manager/project management
- software
- software development.

The following page contains the first two paragraphs of the case study. Candidates should familiarize themselves with the context of the case study before the examination. Candidates will be given the full version of the case study in the examination, including these first two paragraphs.

Mapping Tech Ltd. (MT)

5 *Mapping Tech Ltd. (MT)*, owned by Jackie Beasley, was founded in 2010. *MT* originally wrote software to help farmers use drones for aerial mapping, which allows for precision agriculture. With the information gathered from aerial mapping, farmers can determine which areas of their farms need more (or less) human attention, such as more (or less) fertilizer and what types of fertilizer to use. Through precision agriculture, farmers can increase yields, lower costs and reduce the environmental impact of farming. Later, *MT* began to manufacture hardware related to precision agriculture.

10 Jackie founded *MT* when studying computer science at the University of Nebraska (UoN), located in Lincoln, Nebraska, United States of America (USA). One major focus of UoN is the use of drones for precision agriculture. Jackie saw the benefits of aerial mapping as well as the positive impact that precision agriculture has on the environment: with the world's population growing and humans' total ecological footprint increasing, she believed that precision agriculture could increase the food supply and reduce environmental impact. With her expertise in software mapping, Jackie felt a responsibility to advance the field of precision agriculture.



Business management
Higher level and standard level
Paper 1

Specimen paper

1 hour 30 minutes

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Read the case study carefully.
- Section A: answer all questions.
- Section B: answer one question.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[30 marks]**.

Mapping Tech Ltd. (MT)

Mapping Tech Ltd. (MT), owned by Jackie Beasley, was founded in 2010. *MT* originally wrote software to help farmers use drones for aerial mapping, which allows for precision agriculture. With the information gathered from aerial mapping, farmers can determine which areas of their farms need more (or less) human attention, such as more (or less) fertilizer and what types of fertilizer to use. Through precision agriculture, farmers can increase yields, lower costs and reduce the environmental impact of farming. Later, *MT* began to manufacture hardware related to precision agriculture.

Jackie founded *MT* when studying computer science at the University of Nebraska (UoN), located in Lincoln, Nebraska, United States of America (USA). One major focus of UoN is the use of drones for precision agriculture. Jackie saw the benefits of aerial mapping as well as the positive impact that precision agriculture has on the environment: with the world's population growing and humans' total ecological footprint increasing, she believed that precision agriculture could increase the food supply and reduce environmental impact. With her expertise in software mapping, Jackie felt a responsibility to advance the field of precision agriculture.

MT's vision statement is, "Towards a more sustainable world and reduced hunger through drone-assisted precision agriculture". The company also has four ethical objectives: encouraging environmentally friendly practices, treating employees fairly, practicing corporate social responsibility (CSR), and being open in sharing information with stakeholders.

Although large companies created the hardware and software for precision agriculture, Jackie believed that small businesses like *MT* had advantages in the field. *MT* grew rapidly in the USA and evolved from a software company to both a software and hardware company. This shift occurred when *MT* received a patent for what became its main product, MT Snap, a device that attaches to multispectral cameras mounted on drones. The digital data collected with the camera and the device are then fed through cloud-based licensed software developed by *MT*. The software, MT Map, maps the data with coordinates, allowing farmers to identify the exact location of the images on the ground. MT Snap costs \$6000, a multispectral camera costs \$5000, and the cloud-based software requires a \$3500 annual license fee. The licensing agreement that comes with the software gives *MT* the right to use the data for its own purposes, such as improving its devices and software or researching agriculture (comparing data from several farms).

MT owns an industrial building, without a mortgage or any other debt, where its workers manufacture MT Snap. This building, located in an industrial park, also holds stock of multispectral cameras. Software developers work in project teams, and they and other employees are based in leased office spaces in the city centre (downtown) of Lincoln. *MT*'s salespeople provide a personalized service to farm owners, which contributed to the company's rapid growth, and additional sales are generated from the company's website. Jackie attends conferences on precision agriculture to promote her company's products. Although the number of *MT* employees has grown every year, Jackie knows each of them individually.

In 2020 and 2021, *MT* upgraded MT Map. However, the upgrade was expensive for *MT* to produce and for end-users to buy, and *MT* hired additional software developers and a full-time licensed project manager, Kumar, to oversee the software upgrade. During 2020 and 2021, despite strong revenue growth, *MT* was running out of cash because of the cost of the software upgrade.

Initially, Kumar used democratic leadership to manage his team, but his style changed as the deadline that Jackie had set approached. Becoming increasingly autocratic, he pushed his team more and started testing the software less frequently. He wanted to meet the deadline, which his
45 team did. However, when the software upgrade was finally released (rolled out), customers almost immediately began reporting problems.

MT decided that it must either:

- recall (roll back) the software upgrade and have customers use the old software while the new software was being fixed
- 50 • write a patch, which would take 60 days and thus require a shorter-term roll back.

Jackie contacted a software consultant, who determined that, although a patch could fix most of the issues caused by the software upgrade, the software upgrade itself had major problems that would take a year to fix. Jackie accepted the consultant's conclusions, removed Kumar from the job, and asked the consultant to manage the repairs to the software upgrade. The consultant
55 agreed.

Nearly out of cash, *MT* would now have further expenses from another year's work on the software upgrade. Jackie also knew the entire incident had damaged *MT*'s brand.

At this time, *KiltChem* (*KC*), a multinational company (MNC) specializing in chemical fertilizers, approached Jackie with a proposition: it wanted to buy *MT*. *KC* had three interests:

- 60 • *KC* has access to overseas markets and operates in places where regulations regarding drones are less strict than in the USA. *KC* believes farmers around the world would adopt drone-assisted precision agriculture.
- *KC* predicted some synergy: *MT*'s customers could purchase fertilizers from *KC*, and *KC*'s customers could adopt drone-assisted precision agriculture.
- 65 • *KC* wanted access to all the data that *MT*'s cloud-based software had collected.

Jackie allowed *KC* to see *MT*'s annual revenue figures for the past five years, but she did not share the full financial statements: *KC* could not buy *MT* without her permission, so she would only release the full information when *KC* had made an offer. Jackie also did not tell *KC* about the problem with the newly released software upgrade.

70 Two days later, *KC* told Jackie it was prepared to pay her \$25 million in cash and \$20 million in *KC* shares, but *KC* would have to see five years' final accounts before finalizing the offer. Jackie knew that if the final offer was in the range of the preliminary offer, the sale of *MT* would make her financially secure for life. *KC*'s only condition was that Jackie remain the Chief Executive Officer (CEO) for three years. However, she also has concerns about the damage that *KC*'s chemical
75 fertilizers have on the environment.

Section A

Answer **all** questions from this section.

1. Define the term *democratic leadership* (line 42). [2]
2. Define the term *multinational company (MNC)* (line 58). [2]
3. Describe **two** elements of *MT*'s marketing mix. [4]
4. Explain **one** advantage **and one** disadvantage for *MT* of being a small business (line 20). [4]
5. Explain why *KC* could only purchase *MT* if it had permission from Jackie (line 67). [2]
6. Explain **one** way in which Jackie is potentially meeting *MT*'s ethical objectives (lines 16–18) **and one** way in which she is not. [6]

Section B

Answer **one** question from this section.

7. Discuss **two** appropriate sources of finance that *MT* could use to pay for the fixing of the software upgrade. [10]
 8. Discuss whether Jackie should accept or reject *KC*'s offer to buy *MT*. [10]
-

Markscheme

Specimen paper

Business management

Higher level and standard level

Paper 1

The markbands on page 5 should be used where indicated in the markscheme.

Marks	Level descriptor
0	The work does not reach a standard described by the descriptor.
1–2	<ul style="list-style-type: none"> • Little understanding of the demands of the question. • Little use of business management tools and theories; any tools and theories that are used are irrelevant or used inaccurately. • Little or no reference to the stimulus material. • No arguments are made.
3–4	<ul style="list-style-type: none"> • Some understanding of the demands of the question. • Some use of business management tools and theories, but these are mostly lacking in accuracy and relevance. • Superficial use of information from the stimulus material, often not going beyond the name of the person(s) or name of the organization. • Any arguments made are mostly unsubstantiated.
5–6	<ul style="list-style-type: none"> • The response indicates an understanding of the demands of the question, but these demands are only partially addressed. • Some relevant and accurate use of business management tools and theories. • Some relevant use of information from the stimulus material that goes beyond the name of the person(s) or name of the organization but does not effectively support the argument. • Arguments are substantiated but are mostly one-sided.
7–8	<ul style="list-style-type: none"> • Mostly addresses the demands of the question. • Mostly relevant and accurate use of business management tools and theories. • Information from the stimulus material is generally used to support the argument, although there is some lack of clarity or relevance in some places. • Arguments are substantiated and have some balance.
9–10	<ul style="list-style-type: none"> • Clear focus on addressing the demands of the question. • Relevant and accurate use of business management tools and theories. • Relevant information from the stimulus material is integrated effectively to support the argument. • Arguments are substantiated and balanced, with an explanation of the limitations of the case study or stimulus material.

Section A

1. Define the term *democratic leadership* (line 42). [2]

Democratic leadership refers to the type of leadership whereby employees are consulted and asked to participate in the decision-making process. Democratic leaders often use this approach because they value the ideas of others.

Candidates are **not** expected to word their definition **exactly** as above.

Award [1] for partial understanding. Award [2] if the candidate conveys understanding that democratic leadership involves consulting employees in decision-making.

2. Define the term *multinational company (MNC)* (line 58). [2]

A multinational company (MNC) is a company that operates in at least one country other than its home country or is legally registered in more than one country.

Candidates are **not** expected to word their definition **exactly** as above.

Award [1] for partial understanding. Award [2] if the candidate conveys understanding that a multinational company operates in two or more countries.

3. Describe **two** elements of *MT's* marketing mix. [4]

- Price: MT Snap, \$6000; multispectral camera, \$5000; cloud-based software, \$3500 per year.
- Place: online and through sales representatives
- Product: device, camera and software
- Promotion: website and promotion at conferences

The case study addresses in only a limited way, the issue of people and does not at all touch on processes and physical evidence. Up to [1] may be awarded for people, provided the response includes some application and explanation. Therefore, do not accept processes or physical evidence

Mark as 2+2.

Award [1] for each element of the marketing mix identified and an additional [1] for a description of each marketing mix identified, up to a maximum of [2].

4. Explain **one** advantage **and one** disadvantage for *MT* of being a small business (line 20). **[4]**

One advantage for *MT* of being small is that it can offer more personalized services than the very large firms with which it competes. Because of its personalized service, *MT* was able to grow very rapidly.

One disadvantage for *MT* of being small is that it has fewer resources compared to large companies. This disadvantage is particularly relevant when it comes to research and development (R&D), as *MT* now finds itself with very little cash.

Accept any other relevant advantage / disadvantage.

Mark as 2+2.

*Award [1] for a relevant advantage / disadvantage identified and an additional [1] for a relevant explanation of that advantage / disadvantage in the context of *MT*, up to a maximum of [2].*

5. Explain why *KC* could only purchase *MT* if it had permission from Jackie (line 67). **[2]**

MT is a private limited company owned 100 % by Jackie. In the case of private limited companies, shareholders must agree to the sale of shares to anyone not currently an owner. In *MT*'s case, since Jackie owns it 100 % she has complete authority to determine whether someone else or some other company may buy all or a portion of *MT*.

Award [1] for explaining that with private limited companies all shareholders must agree to the sale of shares to outsiders. Award an additional [1] for application to the case study, up to a maximum of [2].

6. Explain **one** way in which Jackie is potentially meeting *MT*'s ethical objectives (lines 16–18) **and one** way in which she is not.

[6]

Some ways in which Jackie is potentially meeting *MT*'s ethical objectives are:

- Her commitment to fostering sustainable agriculture through precision agriculture. A university graduate with a degree in computer science, Jackie could find many lucrative paths in life, but she has chosen a very specific one because she believed she had a responsibility “to advance the field of precision agriculture.”
- *MT*'s commitment to increasing food production is a form of corporate social responsibility (CSR). *MT* does not see its purpose being only to enrich shareholders, nor does it use its corporate power to do so. Rather, *MT* is trying to use its corporate power to help farmers produce enough food to feed the world's growing population.
- Her commitment to her people. If the candidate addresses “gets to know her employees” as a matter of management style or Jackie's personality, do not accept. However, if the candidate elaborates and broadens this understanding (a reasonable inference) to be fair and inclusive, accept as a way that Jackie is potentially meeting *MT*'s ethical objectives.

Potential ways in which Jackie is not meeting *MT*'s ethical objectives:

- Her serious consideration of selling *MT* to a major fertilizer company that produces chemical fertilizers. Jackie is fully aware that *KiltChem's* (*KC*'s) products damage the environment and *KC*'s main aim is to sell more fertilizer. *KC*'s offer to purchase *MT* suggests that *KC* sees *MT* as a vehicle to sell more chemical fertilizer. The sale to *KC* would contradict one element of *MT*'s vision of a more sustainable world.
- Her removal of Kumar from the job. The case study seems to suggest that Jackie accepted the consultant's conclusions and immediately removed Kumar from the job without talking to him or the project team first to determine what had gone wrong. Possibly the issue was that Jackie had set an unrealistic deadline. Given the scale of the project, perhaps Jackie or some other executive should have been monitoring progress more closely. Perhaps Kumar should have been removed from the job, but Jackie has an ethical obligation to do some fair investigation first.
- Her encouragement of *KC* making an offer by revealing data about past revenue growth but withholding information about the current problems with the software upgrade and the depleted cash position. Jackie was not doing anything illegal, nor would a final offer come through without seeing the final accounts; however, by withholding the negative information from *KC* and by showing the rapidly rising sales but not the problems, she is creating a misleading picture of *MT*. Her action is somewhat deceptive. Had *KC* learned of the problems at the beginning of the discussion of the sale of the company, *KC* might have ended those discussions immediately.

Accept any other relevant answer.

Mark as 3 + 3.

Award [1] for stating a potential ethical action and, depending on the depth and clarity of the explanation, an additional [2–3]

Award [1] for stating a potential unethical action and, depending on the depth and clarity of the explanation, an additional [2–3]

Up to a maximum of [6].

Section B

7. Discuss **two** appropriate sources of finance that *MT* could use to pay for the fixing of the software upgrade.

[10]

MT has four appropriate sources of finance for fixing the software upgrade:

- Sale of shares. This sale could be to family and friends or a business angel. Going public would not be desirable at this time, given that the company is having problems and thus would not be able to fetch the most advantageous price. In addition, going public would not be feasible because of how long it takes and how much money it costs to do all of the paperwork and to pay the lawyers and investment bankers. Selling to family and friends would be easier, but it may not raise as much capital as *MT* needs. With the right angel investor, *MT* could probably raise considerable capital, but depending on how much capital *MT* needs, the angel investor may require Jackie to lose a greater percentage of ownership than she would like. If she is desperate for capital, she might even have to lose majority control. Further, some angel investors may not align with *MT*'s socially responsible sense of vision.
- Obtain a bank loan or mortgage secured by the industrial building *MT* owns. The case does not indicate how valuable the building is, so some question exists as to whether the bank would, with the building as collateral, lend as much money as *MT* requires. Bank loans can usually be obtained fairly quickly, although a bank loan comes with increased expenses—namely, interest—and a schedule of principal and interest payments.
- Sell the building with an agreement to lease it back. With a sale-leaseback, *MT* would obtain funds as if it were selling the building, but this would come without the expense and business interruption of relocation. However, finding a buyer is not always easy unless *MT* were to sell the building at a price lower than the building's true value. In addition, *MT* would now have lease payments, an extra expense.
- A combination of equity and debt. Jackie could sell some shares to family and friends. For any other funds *MT* requires, it could get a bank loan secured by the industrial building.

N.B. Do not accept any form of short-term finance, as short-term finance is not appropriate in this instance. MT requires more working capital, which can only be obtained by increasing long-term debt or raising equity capital.

Marks should be allocated according to the markbands on page 5.

8. Discuss whether Jackie should accept or reject the *KC*'s offer to buy *MT*.

[10]

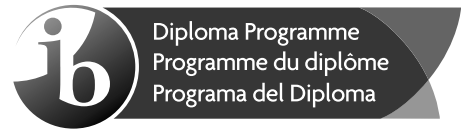
Reasons why Jackie should consider selling the business include:

- A company like *KiltChem* (*KC*) would have the resources to provide finance for *MT* to complete the software upgrade.
- Being owned by a multinational corporation, *MT* would have easier access to foreign markets, where regulations on the use of drones are less strict than in the USA. Farmers in those markets would represent a great opportunity for *MT*.
- Domestically, the predicted synergy between *KC* and *MT* would probably lift *MT*'s sales and market share.
- Because the market is highly competitive, with many large companies competing in it, being part of a major corporation would give *MT* some protection. *MT* would probably benefit from at least some of the economies of scale that *KC* has.
- *KC* has said that a condition of the sale is that Jackie stay on as CEO for at least three years, which means that, at a minimum, she can continue working for the company that she founded and loves for at least three years.
- Jackie would become independently wealthy by selling her company.

Reasons why Jackie may not want to sell *MT* include:

- She would lose control of the business. Even though she would still be CEO of *MT*, she would not be the owner. *KC* would be unlikely to allow autonomous corporate governance for *MT*. Thus, regardless of the downstream corporate governance structure, an executive at *KC* would effectively be her boss.
- A clear misalignment exists between Jackie and *MT*'s vision and purpose and *KC*'s vision and purpose. Jackie is interested in helping the world create sustainable solutions to agriculture, whereas *KC* wants to sell more fertilizer. If she sells, Jackie may forever feel as though she compromised her values.
- One of the hidden assets of *MT* is the data it has obtained from its clients. As noted in the case study, the licensing agreement allows *MT* the right to use the data. Jackie's original purpose for this data was to use it to improve hardware and software and conduct agricultural research. *KC*, however, might use that data for more commercial purposes, which somewhat contradicts the socially responsible ethos of *MT*.
- After three years, *KC* may no longer want to employ Jackie. Although she would now be independently wealthy, *MT* is her life's work and she may not want to be separated.

Marks should be allocated according to the markbands on page 5.



Business management
Higher level
Paper 2

Specimen paper

Candidate session number

1 hour 45 minutes

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Instructions to candidates

- Do not open this examination paper until instructed to do so.
- A clean copy of the **business management formulae sheet** is required for this examination paper.
- Section A: answer all questions.
- Section B: answer one question.
- Answers must be written within the answer boxes provided.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[50 marks]**.

20 pages

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20EP01

Section A

Answer **all** questions in this section.

1. Prime Pies (PP)

Prime Pies (PP) produces the highest quality luxury pies. The pies contain organic* ingredients and are priced at \$20 each, which is significantly more expensive than the pies of *PP*'s competitors. *PP*'s profits have fallen, so *PP*'s operations manager is looking at producing a cheaper pie that is not made from organic ingredients to meet the needs of the mass market. To finance the production of this new pie, *PP* is planning to sell older non-current assets rather than increase its long-term liabilities, such as loans.

Forecasted financial information on the production of the new pie for 2023 is given in **Table 1**.

Table 1: Forecasted financial information on the production of *PP*'s new pie

Direct cost of each new pie	\$4.20
Dividends to shareholders	10 % of profit per period
Expenses: administration	\$28 400
Expenses: marketing	20 % of sales revenue
Forecast sales volume	42 000 pies
Interest on loans	10 % of cost of sales
Price of the new pie	\$8
Tax on profits	20 % on profit before tax

* organic: food produced without the use of chemical fertilizers, pesticides, or other artificial chemicals

(a) Define the term *mass market*.

[2]

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(This question continues on the following page)



(Question 1 continued)

- (b) (i) Construct a forecasted profit and loss account for the production of *PP*'s new pie
(*show all your working*). [4]

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- (ii) Calculate the forecasted gross profit margin for the new pie. [2]

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- (c) Explain **one** disadvantage for *PP* of selling older non-current assets to finance the
production of the new pie. [2]

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2. Static Force (SF)

Static Force (SF) produces disposable watches. It has a unique selling point/proposition (USP) and strong brand awareness in the watch market for offering very low prices. However, with online competition growing, *SF* is experiencing falling sales. The Chief Executive Officer (CEO) of *SF* is considering launching a new watch produced from recyclable materials and selling it at a much higher price. The CEO is looking to set the price of this new watch at \$160. *SF*'s current watches are usually priced between \$42 and \$84.

Financial information on the new watch is shown in **Table 2**.

Table 2: Financial information on SF's new watch

Direct cost of each new watch	\$40
Fixed costs to produce the new watch	\$6 million
Maximum production capacity of new watch	88 000 watches
Price of the new watch	\$160

(a) Define the term *brand awareness*.

[2]

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(This question continues on the following page)

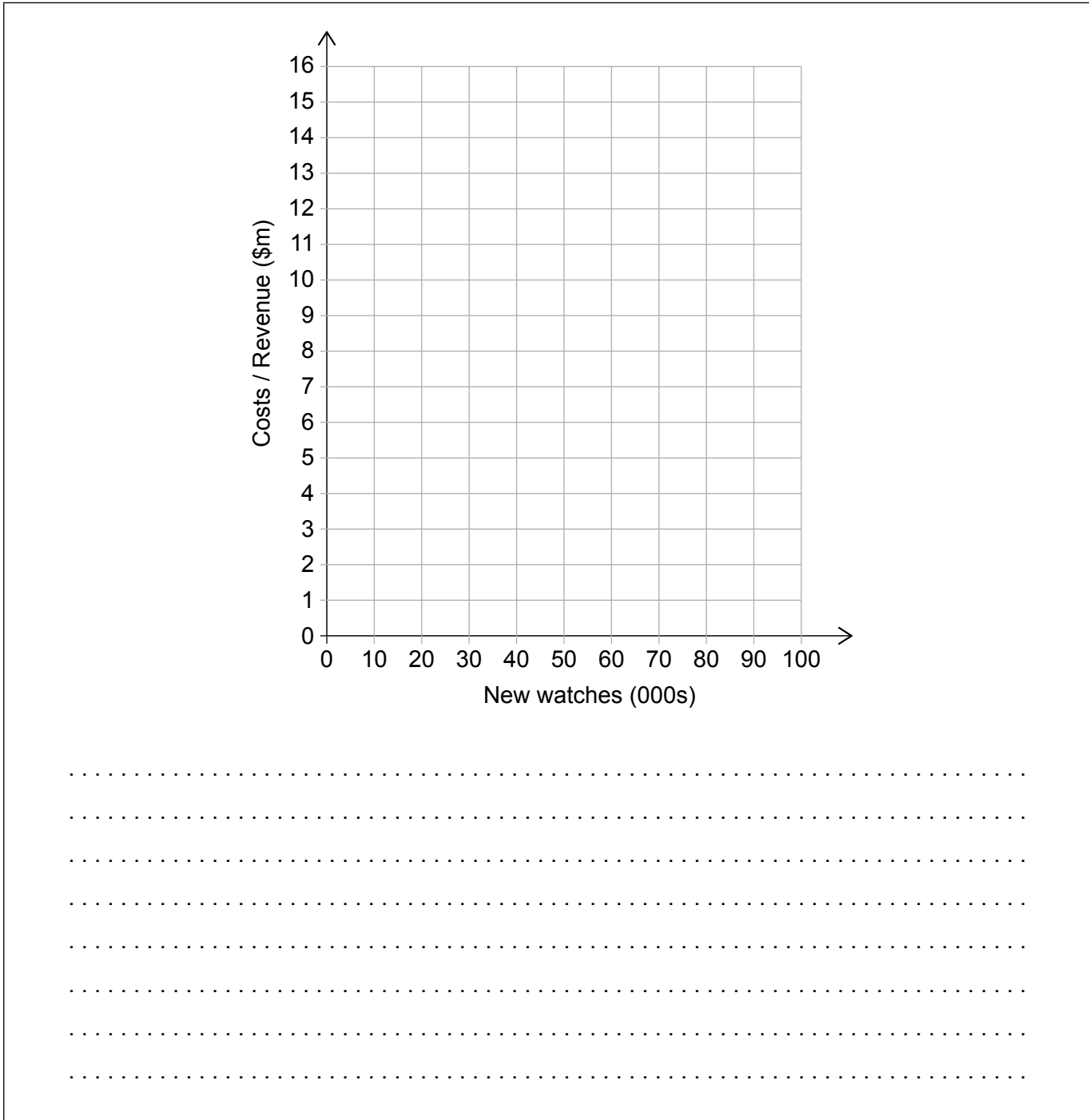


(Question 2 continued)

(b) Using information from **Table 2**:

- (i) construct a fully labelled break-even chart for *SF*, to scale, for the new watch
(*show all your working*);

[4]



(This question continues on page 7)



20EP05

Turn over

Please **do not** write on this page.

Answers written on this page
will not be marked.



20EP06

(Question 2 continued)

(ii) calculate the margin of safety (*show all your working*).

[2]

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(c) Explain **one** advantage for *SF* of introducing the new watch.

[2]

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20EP07

Turn over

3. Flip Shoes (FS)

Flip Shoes (FS) produces shoes for musical performers and actors, focusing mostly on the entertainment industry. The business uses batch production and operates in a niche market. With the creation of more television and film series, *FS*'s sales have increased significantly, and its market share is also increasing. The business has two managers and a limited workspace. The managers have noted that the business is currently experiencing diseconomies of scale.

The mean sales of pairs of shoes per month in each year for *FS* are shown in **Table 3**.

Table 3: Mean sales of pairs of shoes per month in each year for *FS*

Year	Mean sales per month
2014	100
2015	140
2016	280
2017	320
2018	600
2019	724
2020	800
2021	1020

- (a) Describe **one** feature of batch production. [2]

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- (b) (i) Describe how the mean sales of pairs of shoes per month for *FS* could have been calculated. [1]

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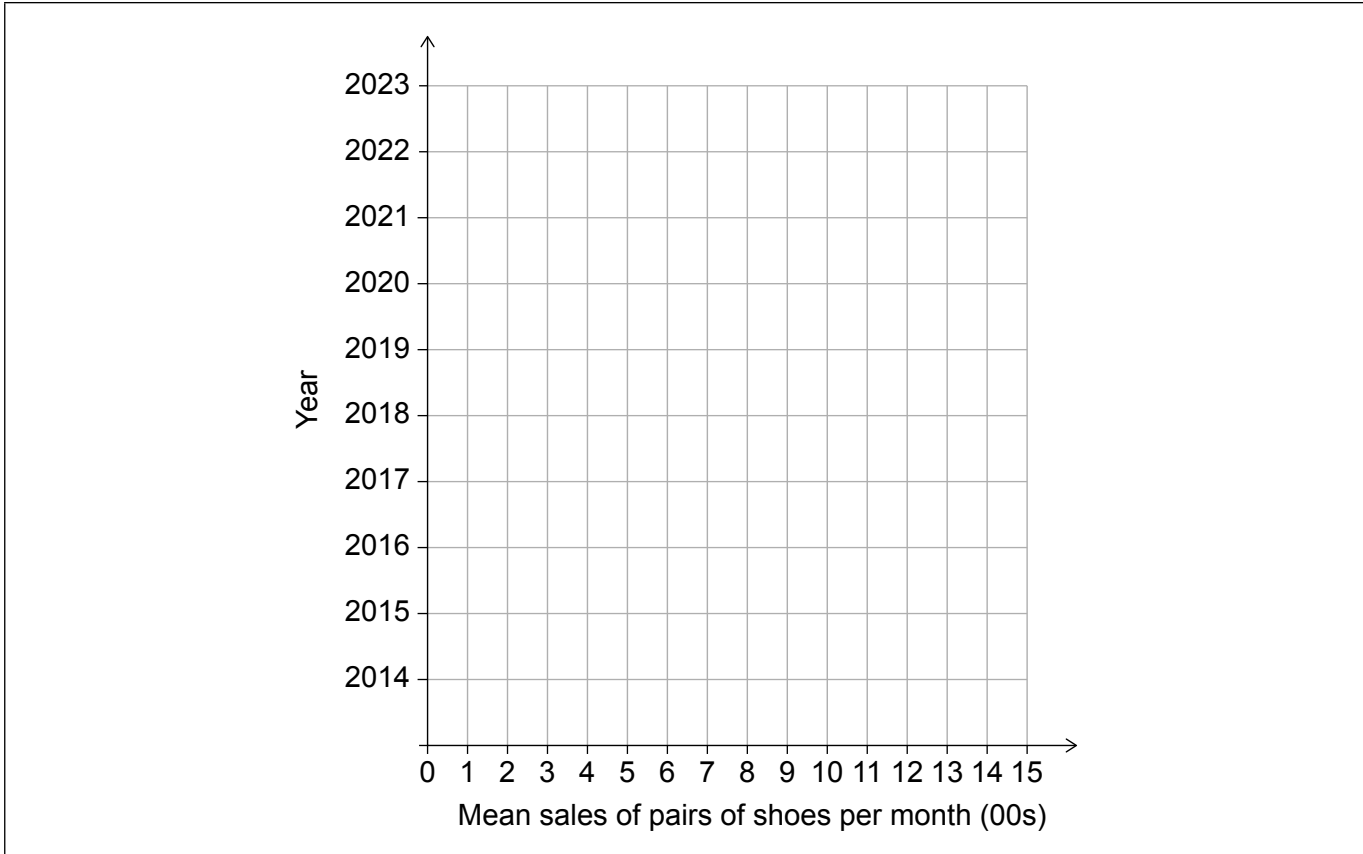
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(This question continues on the following page)



(Question 3 continued)

- (ii) On the graph, plot the mean sales of pairs of shoes per year since 2014 (show your labelling clearly). [2]
- (iii) On the graph you plotted in (b)(ii), construct a line of best fit through the mean sales data. [1]



- (iv) On the graph you constructed in (b)(iii), draw (extrapolate) a value for mean sales in 2022 **and** 2023 from the line of best fit. [2]

Extrapolated value 2022:

Extrapolated value 2023:

- (c) Explain **one** diseconomy of scale that *FS* could experience. [2]

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Please **do not** write on this page.

Answers written on this page
will not be marked.



Section B

Answer **one** question from this section.

4. Coco Delight (CD)

Coco Delight (CD) produces a range of luxury chocolate bars that are sold and manufactured in New Zealand. *CD* has created an overseas supply chain in which all ingredients for its chocolate bars are imported to New Zealand.

- (a) Describe **one** feature of a supply chain. [2]

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CD is aware that overseas suppliers use palm oil* in the production of chocolate bars. Palm oil production is damaging to the environment, so *CD* has decided to produce a new ethical chocolate bar that contains only a quarter of the palm oil used in its other chocolate bars. These new ethical chocolate bars will be considerably more expensive than the chocolate bars in *CD*'s current range and will be priced using a premium pricing method. Part of the profits from the sales of the new chocolate bars will be used to finance sustainable palm oil production to reduce the impact on the environment.

- (b) Explain **one** advantage **and one** disadvantage for *CD* of using a premium pricing method for the new ethical chocolate bar. [4]

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* palm oil: an edible vegetable oil used in the manufacture of food and beauty products

(This question continues on the following page)



Turn over

(Question 4 continued)

CD is considering exporting the ethical chocolate bars to consumers in new overseas markets. It has identified three possible target countries: X, Y and Z. *CD* used a random sampling method of 500 consumers in each of the three countries to carry out market research. The new ethical chocolate bar is to be launched in 2024. The results of the market research are given in **Table 4**.

Table 4: Market research results

Possible target country	Percentage of respondents who would try the new ethical chocolate bar	Percentage of respondents who would possibly try the new ethical chocolate bar	Percentage of respondents who would not try the new ethical chocolate bar
X	60 %	32 %	8 %
Y	42 %	38 %	20 %
Z	28 %	62 %	10 %

(c) (i) Comment on the market research results in **Table 4**.

[2]

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(ii) Explain **one** benefit for *CD* of collecting market research using random sampling.

[2]

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(This question continues on the following page)



(Question 4 continued)

CD has employed an economics consultancy to review the current and future economic situation in each of the three possible target countries in which it wants to launch the new ethical chocolate bar. The chocolate bar is expected to be priced higher than the chocolate bars of *CD*'s competitors in all three countries. No ethical chocolate bars are currently produced by these competitors.

The consultancy:

- forecasted economic conditions for each possible target country for 2024 and 2028
- used data from the last six years and estimated the probability of *CD*'s success upon entering each market based on the experiences of other confectionery manufacturers
- carried out an extensive STEEPLE analysis for each possible target country.

A summary of the results of this consultancy review is given in **Table 5**.

Table 5: Summary of the consultancy review's results

Target country	Forecasted economic conditions in 2024	Forecasted economic conditions in 2028	Probability of success	STEEPLE analysis summary
X	Stable	Worsening	0.42	Favourable to business
Y	Improving	Stable	0.58	No clear trend, but limited technology
Z	Declining	Strongly improving	0.79	Concerns, especially about political stability in the future

(This question continues on the following page)



(Question 4 continued)

- (d) Using the data provided in **Table 4** and **Table 5**, and other information in the stimulus, recommend which target country *CD* should launch its new ethical chocolate bar in. [10]

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20EP15

Turn over

5. Quick Scoot (QS)

Quick Scoot (QS) produces a portfolio of electric scooters (e-scooters) that are unlocked for use by a mobile phone application. The three different e-scooter models produced by QS are called Alpha, Beta and Gamma.

Users of the e-scooters pay a small fee per kilometer travelled. QS has significant brand loyalty and has found that consumer demand for scooters has grown, especially in busy cities where transport options are limited. QS is a product-orientated business.

(a) Describe **one** feature of a product-orientated business. [2]

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An increase in congestion has meant that a number of competitors have entered the market at a rapid rate. Through secondary market research, QS has found that competition has intensified. In 2019, the total profits for all three of QS's e-scooters fell. QS's newly appointed Chief Executive Officer (CEO) thinks that each e-scooter model should be separated into a profit centre, as shown in **Table 6** below.

Table 6: QS's three e-scooter profit centres

E-scooter profit centre	Profit in 2017 (in millions of \$)	Profit in 2019 (in millions of \$)	Future competition from other e-scooter manufacturers
Alpha	8	6	Increasing, but Alpha has strong brand loyalty
Beta	4	-2 (but making a contribution to fixed costs)	Stable, but likely to increase
Gamma	2	-0.8 (but making no contribution to fixed costs)	Intensifying as more young people use e-scooters in cities
Total	14	3.2	

(This question continues on the following page)



(Question 5 continued)

- (b) Explain **one** advantage **and one** disadvantage for QS of converting the three e-scooter models into profit centres in 2019.

[4]

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QS began to consider introducing a new e-scooter model, Delta. It would be a cheaper model targeted at students or people on low income. Production of the new e-scooter would be outsourced to a neighbouring country with much lower wage rates and material costs. However, there would be language/cultural barriers involved in communicating with the outsourced company as well as quality control concerns. Some of QS's management thought that Delta offered the only chance for QS to maintain its profitability.

- (c) Explain **one** cost **and one** benefit for QS of outsourcing production of the new e-scooter model, Delta, to a neighbouring country.

[4]

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(This question continues on the following page)



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20EP19

Turn over

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20EP20

Markscheme

Specimen paper

Business management

Higher level

Paper 2

The markbands on page 5 should be used where indicated in the markscheme.

Marks	Level descriptor
0	The work does not reach a standard described by the descriptor.
1–2	<ul style="list-style-type: none"> • Little understanding of the demands of the question. • Little use of business management tools and theories; any tools and theories that are used are irrelevant or used inaccurately. • Little or no reference to the stimulus material. • No arguments are made.
3–4	<ul style="list-style-type: none"> • Some understanding of the demands of the question. • Some use of business management tools and theories, but these are mostly lacking in accuracy and relevance. • Superficial use of information from the stimulus material, often not going beyond the name of the person(s) or name of the organization. • Any arguments made are mostly unsubstantiated.
5–6	<ul style="list-style-type: none"> • The response indicates an understanding of the demands of the question, but these demands are only partially addressed. • Some relevant and accurate use of business management tools and theories. • Some relevant use of information from the stimulus material that goes beyond the name of the person(s) or name of the organization but does not effectively support the argument. • Arguments are substantiated but are mostly one-sided.
7–8	<ul style="list-style-type: none"> • Mostly addresses the demands of the question. • Mostly relevant and accurate use of business management tools and theories. • Information from the stimulus material is generally used to support the argument, although there is some lack of clarity or relevance in some places. • Arguments are substantiated and have some balance.
9–10	<ul style="list-style-type: none"> • Clear focus on addressing the demands of the question. • Relevant and accurate use of business management tools and theories. • Relevant information from the stimulus material is integrated effectively to support the argument. • Arguments are substantiated and balanced, with an explanation of the limitations of the case study or stimulus material.

Section A

1. (a) Define the term *mass market* [2]

A market for goods that are produced in very large quantities. Because of economies of scale, products sold in mass markets are less expensive than goods produced for niche or highly specialized markets.

Candidates are **not** expected to word their definition **exactly** as above.

Award [1] for partial understanding which may include some reference to either an undifferentiated market or large volume operations. Award [2] if the candidate provides an accurate and clear definition which includes references to products sold in large quantities **and** reference to an undifferentiated market.

- (b) (i) Construct a forecasted profit and loss account for the production of PP's new pie (show all your working). [4]

Statement of forecasted profit or loss for PP for the year ended December 2023

		\$
Sales revenue	(8 × 42 000)	336 000
Cost of sales	(4.20 × 42 000)	<u>(176 400)</u>
Gross profit		159 600
Expenses (administration and marketing)	(28 400 + 67 200)	<u>(95 600)</u>
Profit before tax and interest		64 000
Interest		<u>(17 640)</u>
Profit before tax		46 360
Tax @20 %		(9 272)
Profit for period		<u>37 088</u>
Dividends to shareholders 10 %		(3 708.80)
Retained profit		33 379.20

Award [1] for each correct calculation (if any calculations are needed in addition to the construction of the P&L). In this question, cost of sales needs to be calculated.

If the profit and loss account is constructed following the IBO format and is correct in all respects with full working shown, award [4]. Apply own figure rule (OFR): if the candidate incorrectly calculated cost of sales but otherwise the profit and loss account is constructed following the IBO format and is correct in all other respects, award [3] If the answer is correct and done according to the IBO format but no working is shown, award [3]

Award [2] if the candidate produces a profit for period figure (OFR regarding cost of sales), but does not follow the IBO format. Award [1] if the candidate shows some understanding of what a profit and loss account is, but the actual account constructed is not in the IBO format and has numerous errors.

- (b) (ii) Calculate the forecasted gross profit margin for the new pie. [2]

$$\text{Gross profit margin} = \frac{\text{gross profit}}{\text{sales revenue}} \times 100$$

$$\text{Gross profit margin} = \frac{159\,600}{336\,000} \times 100 = 47.5 \%$$

Award [1] for correct working and [1] for a correct answer – allow for own figure rule (OFR).

- (c) Explain **one** disadvantage for *PP* of selling older non-current assets to finance the production of the new pie. [2]

Selling assets to finance the new pie will reduce *PP*'s productive capacity. Even though sales of their more expensive pies have fallen, *PP* will still have to produce a forecasted 42 000 new pies.

PP sell the highest quality luxury pies. Reducing productive capacity may impact on *PP*'s ability to continue to sell the highest quality pies.

*Award [1] for an explanation of a relevant disadvantage with an additional [1] for application to *PP*.*

2. (a) Define the term *brand awareness*. [2]

Brand awareness refers to the degree to which consumers recognize a product by its name and/or special characteristics. This recognition could be due to a specific logo or trademark associated with the brand.

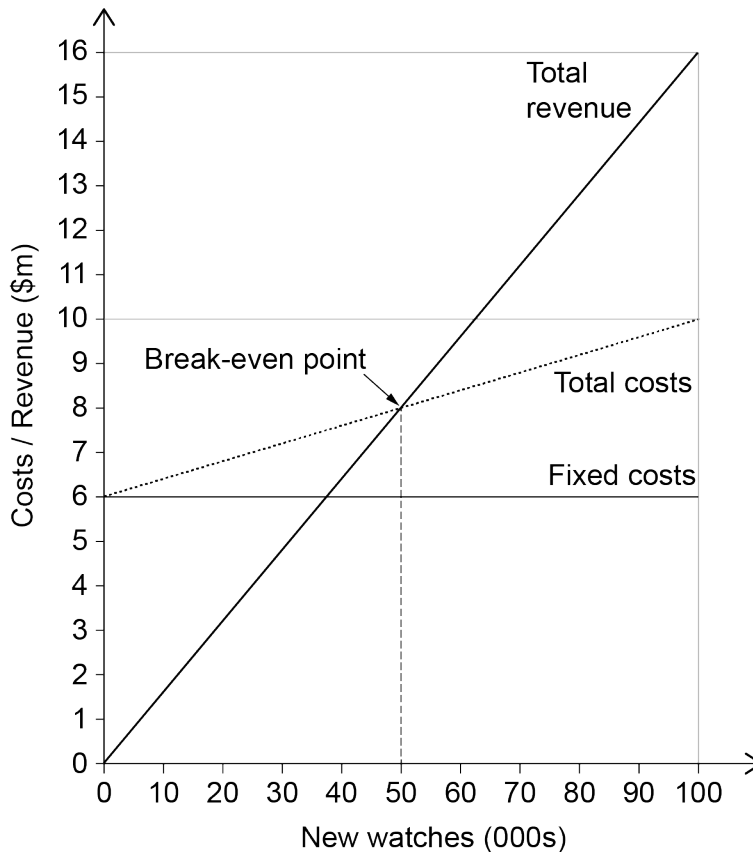
Candidates are **not** expected to word their definition **exactly** as above.

Award [1] for partial understanding concerning recognition. Award [2] if the candidate provides an accurate and clear definition with some mention of brand awareness being linked to a logo or other form of recognition.

Award [0] if candidates refer to brand awareness being awareness of a brand or similar tautological response.

- (b) Using information from **Table 2**:

- (i) construct a fully labelled break-even chart for *SF*, to scale, for the new watch (show all your working); [4]



Supporting calculations

$$\text{BE point is } \frac{6000000}{(\text{contribution})}$$

Contribution of the new watch is \$160 – \$40 = 120

$$\text{BE point} = \frac{6000000}{120} = 50000 \text{ watches}$$

Award marks as follows:

[1] for both appropriately labelled axes – y-axis must include both costs and revenue.

The x-axis can be any suggestion of quantity: units- new watches.

[1] for accurately drawn and labelled total cost line.

[1] for accurately drawn and labelled total revenue line.

[1] for indication of break-even point. OFR applies from part [x].

Award a maximum of **[2]** if the chart is not neat, not drawn with a straight edge, or is not to scale.

If a candidate produces a table rather than a chart, award **[0]**.

- (b) (ii) calculate the margin of safety (*show all your working*). **[2]**

$$\text{Margin of safety} = 88\,000 \text{ watches} - \text{BE point } (50\,000) \text{ watches} = 38\,000 \text{ watches.}$$

Award **[1]** if the candidate demonstrates how to calculate the margin of safety but makes a mathematical error.

Award **[2]** if the candidate demonstrates how to calculate the margin of safety and produces the correct answer.

Accept OFR.

- (c) Explain **one** advantage for SF of introducing the new watch. **[2]**

The new watch will create a new market opportunity for SF at a time of falling sales due to growing online competition. This market opportunity could lead to a new positioning of SF's watches in a higher price bracket and increased sales.

The new watch will allow SF to use up some of its spare capacity, as the current margin of safety is 38 000 watches, and possibly in the future allow the new watch to be produced at lower cost, thus reducing its high retail price.

Award **[1]** for an advantage, with an additional **[1]** for application to SF.

3. (a) Describe **one** feature of batch production. **[2]**

- Involves production of a group of identical products. Products are made as specified groups or amounts within a given time frame.
- Customers are offered customized products but using a range of standardized options.
- This method of production requires careful planning, as the components for the products need to be interchangeable.

Accept any other relevant feature.

Award **[1]** for a partial description which may refer to the idea that similar items are manufactured in groups with some variation. Award an additional **[1]** to include a full description of some reference to the idea that the group of products move through each manufacturing stage together until completed.

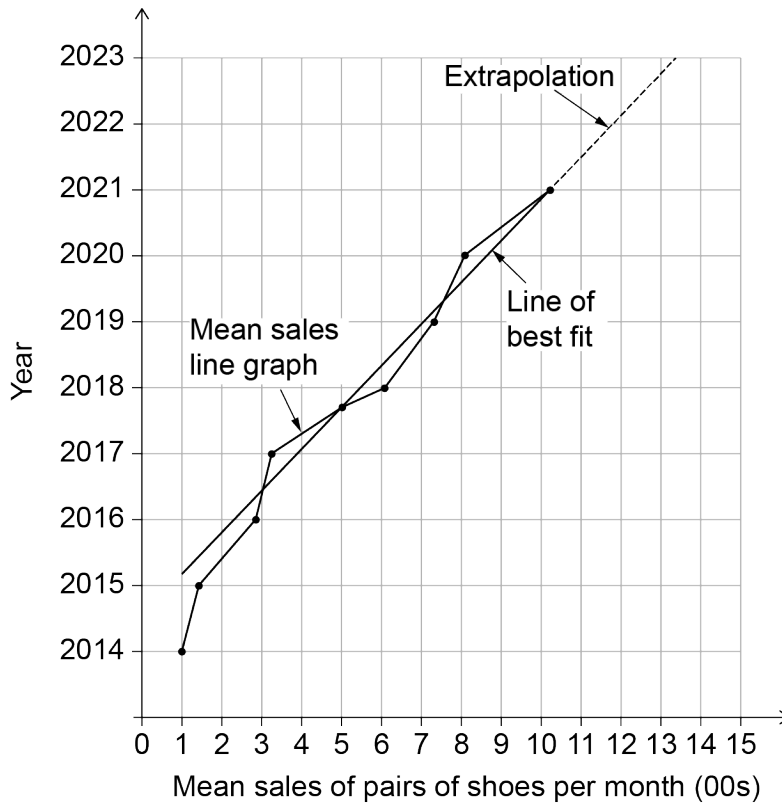
- (b) (i) Describe how the mean sales of pairs of shoes per month for *FS* could have been calculated. [1]

The mean sales per month could have been calculated by adding together the total sales for the year and dividing by 12.

Award [1] for a correct answer.

Candidates are **not** expected to word their description **exactly** as above.

- (ii) On the graph, plot the mean sales of pairs of shoes per year since 2014 (show your labelling clearly). [2]



Award [2] if both axes are clearly labelled, sales data clearly plotted, and line graph drawn connecting all points as shown in the diagram

Award [1] if one of the above elements is missing.

Award [0] if two of the above are missing or the plotted points on the diagram are so poorly presented that it is hard to verify accuracy easily

- (iii) On the graph you plotted in (b)(ii), construct a line of best fit through the mean sales data. [1]

Award [1] for a correct line of best fit drawn with a ruler.

- (iv) On the graph you constructed in (b)(iii), draw (extrapolate) a value for mean sales in 2022 **and** 2023 from the line of best fit. [2]

From the graph, the extrapolated value of mean sales for 2022 is 11.7, or 1170 shoes, while for 2023 it is 13.3, or 1330 shoes.

Award [1] for each correct extrapolated value, up to a maximum of [2].

Allow OFR but note below;

If the extrapolated line is not accurately drawn but is a straight line and the candidate has correctly and accurately produced an extrapolated value, then apply OFR.

Do not award a mark if the extrapolated value has been created by inaccurate use of a ruler or the line of best fit has been extended inappropriately.

- (c) Explain **one** diseconomy of scale that FS could experience. [2]

A possible diseconomy of scale occurs when the unit costs of production increase over the long run. Sales at FS are growing at a dramatic rate and, with a small number of managers and limited workspace, coordination and communication challenges may lead to rising unit costs as the scale and sale of production of shoes increases.

Award [1] for a response which may include an application of a diseconomy of scale to FS with an additional [1] for a clear theoretical explanation. For [2] there must be some indication in the theoretical explanation that the diseconomy of scale will lead to an increase in unit costs.

Section B

4. (a) Describe **one** feature of a supply chain. [2]

A supply chain illustrates the full production process of a product from the extraction of raw materials through manufacturing and eventually to distribution so that it reaches the end user. Parts of a supply chain could include extraction to manufacturing. It is possible to outsource parts of the supply chain process to a third party.

Award [1] for a partial description (part of the production process such as extraction of raw materials) with an additional [1] to include a full description highlighting two aspects of the supply chain process (manufacturing and distribution).

- (b) Explain **one** advantage **and one** disadvantage for CD of using a premium pricing method for the new ethical chocolate bar. [4]

Advantages

- An ethical bar will be a new venture for CD. The stimulus indicates the possibility for a first mover advantage as there are no existing competitors. A premium pricing method under these circumstances could allow CD to earn significant profits.
- If consumers are influenced by ethical and environmental considerations in their purchasing habits then a premium pricing method (with some of the profits being used to ensure sustainability of the crops) can be justified and could lead to brand loyalty.
- CD could become a price leader and influence the prices of its other bars and positively impact on positioning.

Disadvantages

- However, given that CD's current chocolate bar range is priced considerably lower, a premium pricing method could discourage existing customers as the marketing mix for the new bar is different. Overall sales volumes of CD's bars may fall.
- The premium price method will impact negatively on the positioning of CD and may cannibalize the sales of its existing bars in its portfolio.
- A premium pricing method will require an extension of promotional campaigns both below and above the line to convince existing and potential customers that the additional mark-up in price is appropriate and justified given the ethical and environmental opportunities. This new promotional mix will add to CD's promotional budget and increase total costs.

Accept any other relevant response.

Mark as 2+2.

Award [1] for a relevant advantage/disadvantage, with an additional [1] for application to CD and the new ethical chocolate bar. Award up to a maximum of [2].

- (c) (i) Comment on the market research results in **Table 4**. **[2]**

The results indicate that country X has the highest number of respondents who would try or possibly try the new ethical chocolate bar at 92 % and the lowest negative response at 8 %

Country Y has a high level of response rate at 80 % for both try and possibly try but has the highest response rate of those who would not try the ethical chocolate bar at 20 %

Country Z has a low negative response (10 %) and a high positive result (90 % for those who would try or possibly try). These results are close to that of country X.

The market research strongly supports launching in country X and Z

Award [1] for a comment in context. An additional [1] if there is some mention of the actual data in terms of a percentage from the market research

- (c) (ii) Explain **one** benefit for *CD* of collecting market research using random sampling. **[2]**

Random sampling is an unbiased method of market research because respondents are equally likely to be chosen in the research process. *CD* will obtain unbiased responses regarding their new brand. These customer responses to their new chocolate bar will help *CD* with more realistic future sales, cash flow and profit projections.

*Award [1] for a theoretical response, such as reduced bias, with an additional [1] for application to *CD*.*

- (d) Using the data provided in **Table 4** and **Table 5**, and other information in the stimulus, recommend which target country *CD* should launch its new ethical chocolate bar in. **[10]**

CD have three target countries and will be using a combination of market research and information from an economics consultancy. Both agencies provided forecasts and, with the launch of the chocolate bar being a new venture for *CD*, all decisions on which country in which to launch the new chocolate bar must be taken in this context.

Country X seems a strong candidate. Market research indicating that 60 % of respondents would try this new bar is the most favorable. The economy seems stable, but the probability of success based on the experience of other companies is the lowest. The STEEPLE analysis suggests that launching this product into country X will be met by a favorable attitude to the business.

Country Y has a stable economy but with no clear trend in the STEEPLE and limited technology; it must therefore be viewed as a less favorable proposition. The market research for country Y is also less favorable than for country X: country Y has the highest rate of respondents who would not try the new product.

Country Z clearly represents the biggest challenge and potential opportunity for *CD*. Market research is not conclusive, and the STEEPLE raises concerns for the future. Information is lacking about the impact of the declining economy in the short term.

Basing a judgement on these forecasts alone is not sufficient, and more information would be required around the cultural preferences/barriers, consumer confidence and the inevitable reaction by competitors. This is a new chocolate ethical bar and it is expected that competitors will analyze *CD*'s success before making a decision, but competition is likely. The probability of success for the chocolate bar also has to be treated with a note of caution. Country X seems the safest bet, with country Z a close second. The company's attitude to risk will be important in determining the final decision.

Marks should be allocated according to the markbands on page 5.

Additional guidance:

If the candidate discusses one country only (with balanced and substantiated arguments) then award a maximum of [5].

If there is no balance, then for a one-sided response where only one country is considered then award a maximum of [3].

If the candidate makes no reference to the data provided by the STEEPLE or market research, then the maximum mark to be awarded is [4] even if there is some balance.

5. (a) Describe **one** feature of a product-oriented business. [2]

An approach by companies that focuses their attention and resources on the product that they produce, typically by making the product as high quality or special as possible. Product-oriented companies are generally not concerned about the quantity of sales or market trends but rather that they are offering the highest quality or most special product for its target

Award [1] for a partial description, which may include reference to not being influenced by customer or market trends, with an additional [1] where the description includes reference to highest production quality.

- (b) Explain **one** advantage **and one** disadvantage for QS of converting the three e-scooters into profit centres in 2019. [4]

Advantages

- Profit centre conversion will allow QS to develop greater autonomy away from overall senior management in terms of tactical and even medium-term decision-making and allow each manager for each profit centre to focus on their own e-scooter. An individualised focus could boost employee and management motivation and this might lead to greater productivity.
- 'Alpha is clearly a 'star' and with additional freedom to capitalise on its success may even grow further with increased brand loyalty.
- Beta has suffered the biggest fall in profitability according to Table 6. The manager of this profit centre could be given autonomy and focus their attention to reduce costs.
- Gamma has a smaller profit drop but with intensifying competition in the future. The manager of the profit centre will need to focus on strategies to enable Gamma to thrive in the competitive market space.

Disadvantages

- Profit centres can breed competition between managers which could be motivating but QS run the risk of the managers pursuing their individual goals rather than align the benefits brought about from the competition with the strategic direction of the overall business.
- Beta and Gamma may focus on cost minimization, which while useful to return both centres to profitability, may undermine Alpha's brand value as customers may still perceive that Beta and Gamma belong with Alpha under the QS family brand.
- Individual accountability at the profit centre level will mean that the senior management of QS will have to spend additional time and resources monitoring the performance of three profit centres.
- Overall promotional/advertising costs may rise as each e-scooter is treated as a separate brand. Marketing messages will need to be co-ordinated so that consumers do not go confused. There is evidence from the stimulus that even without the Delta overlapping target markets are evident.

Award [1] for a relative advantage/disadvantage with an additional [1] for application to QS

The application can refer to one profit centre. It is not expected that the candidate will provide application to all three potential profit centres for any related advantage/disadvantage.

- (c) Explain **one cost and one benefit** for QS of outsourcing production of the new e-scooter, Delta, to a neighbouring country.

[4]

Costs

- Possible issues with quality control.
- Language/cultural barriers.
- More dependent on other company and QS cannot afford product disruption as the market is becoming increasingly competitive.

Benefits

- Lower wage rates.
- Reduced material costs and a stronger possibility of reducing price of Delta.
- If profit centres remain, managers will be able to focus on marketing and financial strategies to increase contribution and profitability in Alpha.

Mark as 2+2.

Award [1] for an appropriate cost/benefit and an additional [1] for application to QS. Award up to a maximum of [2].

- (d) Using the data provided in **Table 7**, other information in the stimulus, and a Boston Consulting Group (BCG) matrix, recommend to QS which e-scooter model should be removed from QS's portfolio in order for the company to remain profitable.

[10]

The information in **Table 6** indicates that total profit at QS has fallen from 14 m to 3.2 m in only 2 years. Coupled with the stimulus which indicates that competition in this sector is likely to intensify from other e-scooter manufacturers, the future of QS does not look positive supporting three let alone a fourth e-scooter.

Given Qs' limited working capital and investment in Delta it would be unwise of QS not to pursue launching Delta. Hence, a decision to withdraw a potential e-scooter falls on the analysis of the other three e-scooters from the existing portfolio. To support this decision-making process a potential BCG can be created from the information in **Table 7**.

E-scooter	Current market share	Future market growth	BCG classification
Alpha	High	High	Star
Beta	Medium	Low	Cash Cow
Gamma	Declining	Declining	Dog
Delta	Medium	Possibly high	Problem child

Alpha has a strong argument to be retained given its position within the BCG as a clear star product. It easily has the greatest contribution to overall profitability. It really does not make any sense to withdraw Alpha

The analysis would seem to boil down to keeping either the Beta or Gamma.

For Beta – its target market is adult females. This market is also overlapping with Gamma's target customer. As a cash cow, Beta will still generate sales possibly through brand loyalty and it does make a contribution to fixed costs which is bigger than Gamma's. Beta though has experienced the biggest fall in profitability from the information in **Table 6**.

For Gamma, competition is likely to intensify. It has declining market share and future growth. It is not making a contribution to fixed costs. However, if viewed as a 'dog' it could block outside competitors from entering until Delta establishes itself in an intensifying market. Gamma represents a potential 'watch dog' characteristic of the BCG and this could allow time for Delta to thrive.

However, as the financial situation is beginning to deteriorate and competition is intensifying, it would seem appropriate, based on evidence from stimulus and the BCG matrix to withdraw Gamma from the market. The information from **Table 6** is particularly worrying even if Gamma converts into a profit centre. We have little information from the stimulus of its chances of becoming sustainable. Its future looks bleak and all other things being equal it should be withdrawn.

Marks should be allocated according to the markbands on page 5.

Additional guidance:

If the candidate discusses one scooter only (with balanced and substantiated arguments) then award a maximum of [5]

To reach the 7–8 mark band, appropriate business language of the BCG matrix (star, cash cow, dog, problem child) is expected to be used in the analysis.

To reach the top mark band requires that the candidate refers to at least two scooters with a fully substantiated balanced argument.



Business management
Higher level
Paper 3

Specimen paper

1 hour 15 minutes

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Read the case study carefully.
- Answer all questions.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[25 marks]**.

Share My Lunch (SML)

Read the resources and answer the questions that follow.

Resource 1 – News article

Share My Lunch claims it has served 100 000 free school meals over the last four years, but is everything okay?



SML's promise: you buy one meal, they'll donate another!

Share My Lunch (*SML*), a privately owned social enterprise, has just shared its 100 000th healthy free meal with local school children.

SML's vision statement is, "To ensure that no child goes hungry at school by providing healthy free meals to those in need". The Global Health Organization's recent data (**Table 1**), which is based on schools in 42 countries, provides evidence of the positive impact of healthy meals.

Table 1: The impact on schools of introducing healthy meals

Percentage (%) of schools	Impact on schools
62	Improved student attendance
69	Improved student behavior
89	Improved student wellbeing

SML was created by a group of students who were volunteering at a shelter providing free breakfasts to homeless people, during which they realized that many recipients were school-aged children. The central idea of the enterprise is that, for each lunch produced by *SML* and purchased by a customer, a free healthy lunch is donated to a school child in a lower-than-average income area in that community. The free lunches are delivered to the schools on a daily basis.

As a start-up, *SML* was financed in 2018 through donations and staffed mostly by volunteers. Today, it has 10 paid managers and a chief executive officer (CEO). The launch of *SML* was accompanied by a significant media event supported by the government and a number of well-known sport and media celebrities. Now, *SML* generates 80% of its revenue through sales of its lunches.

Despite its enormous success, *SML* has recently had some issues with negative publicity and uncertainty over its new strategic direction. A number of dissatisfied volunteers have collectively and anonymously written several negative posts on social media referring to:

- the very high salaries of the CEO, while volunteers receive no pay
- the reduction of the budget for providing healthy free meals to school children, which comes at a time when the prices for *SML*'s paid-for lunches have increased and concerns over food quality have arisen
- the poor working conditions and declining motivation of *SML*'s volunteers.

The management of *SML* have not replied to media requests to confirm or deny these accusations.

Resource 2 – Social media posts from a dissatisfied volunteer

SML is lying. What happened to their ethical objectives and business transparency*? I have just finished a four-hour shift making lunches for school kids and had to eat some of the food because I cannot afford to buy my own lunch. Today, I found out that the CEO is paid a very high salary. The food I am preparing is increasingly poor quality because food costs are rising. I will share some figures in my next post. *SML*'s management do not want you to see these.



[1/2]

Financial figures from 2022

Price of lunch to paying customer:	\$20
Cost of providing free lunch to school children:	\$6 including delivery
Average number of meals sold to paying customers per year since 2018:	80 000
CEO salary:	\$400 000 per year
Donations to <i>SML</i> :	Approximately \$1 million per year
Number of volunteers:	80–100
<i>SML</i> 's profit for 2021:	Unavailable because <i>SML</i> is a private limited company



[2/2]

* business transparency: the open sharing of information from a business to its consumers

Resource 3 – Internal email from SML’s CEO to all managers regarding the enterprise’s new strategic direction

• CEO@sharemylunch.com
To: volunteers@sharemylunch.com

Dear all,

Please note that it is against our company policy for volunteers to post about SML on social media, and we will find those responsible for the recent posts.

Now we must focus on our next strategic direction. It was noted in our last meeting that:

- our food costs are rising and, given our growth, we will have to pay our volunteers a wage if we want to increase production
- if we want to continue to be sustainable and ethical and remain true to our vision, we will need to find new sources of finance
- we have been approached by one of our fast-food competitors, a large publicly owned multinational company (MNC), about a possible joint venture. We would benefit from significant internal and external economies of scale if we partnered with this company.

A possible way forward is to use Porter’s generic strategies, adopting either a cost focus strategy (if we stay in our narrow market) or a differentiation strategy (if we decide to try and increase market growth). Other strategies could also be used. However, we need to make a quick decision, as this will affect SML for the next five years at least.

CEO, Share My Lunch

CONFIDENTIAL: This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed.

1. Using an appropriate business management theory, describe a human need that SML meets by donating free healthy lunches to school children. [2]
2. Explain **two** possible challenges facing SML. [6]
3. Using all the resources provided and your knowledge of business management, recommend a possible plan of action to ensure the sustainability of SML for the next five years. [17]

References:

- Resource 1.** [left] Daderot, 2016. *Lunch - Hessisches Landesmuseum Darmstadt* [online] Available at: https://commons.wikimedia.org/wiki/File:Lunch_-_Hessisches_Landesmuseum_Darmstadt_-_Darmstadt,_Germany_-_DSC00671.jpg [Accessed 10 May 2021]. SOURCE ADAPTED.
- [right] Steffen, 2006. *Meal in Taizé with the new cup* [image online] Available at: https://commons.wikimedia.org/wiki/File:Taize-meal-new_cup.jpg [Accessed July 9, 2021]. SOURCE ADAPTED.

Markscheme

Specimen paper

Business management

Higher level

Paper 3

1. Using an appropriate business management theory, describe a human need that *SML* meets by donating free healthy lunches to school children. [2]

The human needs that *SML* meets by donating free healthy lunches to school children include:

- physiological needs being met from feeding the children
- security/safety needs being met as children's behaviour improves
- cognitive needs due to improved opportunities for learning for the children.

Reference to the impact on other stakeholders should be rewarded.

Mark as [1+1].

Award [1] for using an appropriate business management theory, eg Maslow's hierarchy of needs, and [1] for describing a human need.

2. Explain two possible challenges facing *SML*. [6]

SML faces a number of challenges:

- The volunteer workforce – if the social media post is representative of a wider human-resource issue, the volunteers are finding that their goodwill is being undermined due to some confusion over ethical objectives and poor working conditions. An internal email has indicated that volunteers will need to be paid if the growth of *SML*'s business operations is to be sustained. This will raise costs. In the case study, it is implied that there may be motivation challenges also.
- *SML*'s ethical objectives are under threat due to a perceived high management salary when volunteers are not being paid. The perceived high price for meals is not being transferred into high-quality free meals for the school children who receive a donated meal. The lack of transparency that is vital for social enterprises needs to be explored to illustrate the impact *SML* is having on its communities.
- The long-term sustainability of the business is under threat from new competition and the internal problems being experienced. There is a clear need to redefine *SML*'s strategic direction. The tempting offer from the fast-food competitor of a possible joint venture could allow for some new innovations in terms of service or products. However, whilst positive in financial terms, this offer may undermine *SML*'s ethical USP.

Mark as [3+3].

*Award [1] for identification of a challenge, [1] for explanation and [1] for application to *SML*.*

3. Using all the resources provided and your knowledge of business management, recommend a possible plan of action to ensure the sustainability of *SML* for the next five years.

[17]

SML has clearly had a very significant impact on its community, with 100 000 free meals donated. The impact on external stakeholders has been very positive (Resource 1) and the enterprise has created a USP in an increasingly competitive fast-food market by using a premium pricing model. The positive word-of-mouth promotion from celebrities and support from the government has created great publicity. The offer from the fast-food company for a possible joint venture will bring capital and fresh thinking into their business decision making and could be part of a cost focus strategy if *SML* remains in its current narrow market.

The joint venture could also lead to a differentiation strategy, as the joint venture will lead to *SML* being able to compete in a broader marketplace. A new potential range of products or services could be created.

However, the long-term sustainability of *SML* is being challenged unless greater transparency around costs and ethical objectives is addressed. *SML* could easily undo all of the positive word-of-mouth promotion and goodwill it has generated. Resource 2(a) and 2(b) represent one of the several dissatisfied volunteers, but there could be many more. *SML* will have to pay particular attention to its human-resource issues regarding its volunteers. The offer from the competitor, whilst tempting, will be viewed by some as a possible betrayal of the enterprise's ethical objectives. Will *SML* cut costs further by using the materials from the fast-food company? The success of the business has been based on people coming forward to support *SML*'s vision (Resource 1).

What will happen to the culture when paid volunteers become the norm (Resource 3)? How will *SML* be able to motivate volunteers if they perceive that managers are being paid very high salaries? *SML* will need to consider motivation theories, such as Herzberg's two-factor theory or Adams' equity theory.

SML may have to introduce a piece-rate system or look at motivating volunteers beyond working for a social enterprise with a strong ethical vision. Issues of fairness abound in this social enterprise. Resource 3 points to a number of financial issues around financing increased capacity. The offer of a joint venture from the fast-food competitor may further damage *SML*'s brand image.

Either strategy carries risks in terms of undermining *SML*'s social enterprise vision and goodwill on the part of the volunteers.

SML is at a critical point in its development. Its business model and ethical objectives have been brought into question. Its expansion plans may be thwarted by human-resource challenges and a lack of finance. Long-term sustainability is under threat. An important feature of a social enterprise is to be open and transparent with its operations so that stakeholders can regard the impact and vision of the organization as being credible. *SML* will need to address its short-term concerns, and quickly, before planning for future growth.

Marks should be allocated according to the assessment criteria on pages 7–8.

The following assessment criteria will be used for question 3.

Criterion A: Use of resource materials

To what extent does the student use the resource materials provided to effectively support the recommended plan of action?

Marks	Level descriptor
0	The response does not reach a standard described by the descriptors below.
1	The response makes limited reference to the resource materials provided or the resources identified have been used ineffectively to support the recommended plan of action.
2	The response makes some reference to the resource materials provided or the resources identified have been used in a superficial way to support the recommended plan of action.
3	The response makes reference to most of the resource materials provided to support the recommended plan of action.
4	The response makes reference to all resource materials provided to effectively support the recommended plan of action.

Criterion B: Business management tools and theories

To what extent does the student’s plan of action effectively apply appropriate business management tools and theories?

Marks	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1	The response demonstrates limited application of appropriate business management tools and theories.
2	The response superficially applies appropriate business management tools and theories.
3	The response satisfactorily applies appropriate business management tools and theories.
4	The response effectively applies appropriate business management tools and theories.

Criterion C: Evaluation

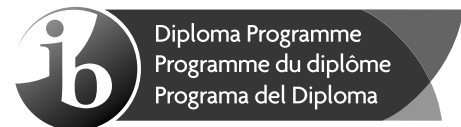
To what extent does the student effectively evaluate the expected impact of their plan of action on the relevant areas of the business?

Marks	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	The response is largely descriptive with limited analysis or evaluation of the expected impact of their plan of action. There is limited reference to the relevant areas of the business.
3–4	The response analyses the expected impact of their plan of action with some reference to the relevant areas of the business. There is some evidence of evaluation but it is not sustained.
5–6	The student effectively evaluates the expected impact of their plan of action on the relevant areas of the business and considers the trade-offs between those areas.

Criterion D: Sequencing of ideas and plan of action

To what extent are the student’s ideas and plan of action sequenced in a clear and coherent manner?

Marks	Level descriptor
0	The response does not reach a standard described by the descriptors below.
1	The response is limited in its sequencing of ideas and plan of action.
2	The response consists of ideas and a plan of action but these are not always sequenced in a clear manner.
3	The response effectively sequences appropriate ideas and a plan of action in a clear and coherent manner.



Business management
Standard level
Paper 2

Specimen paper

Candidate session number

1 hour 30 minutes

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Instructions to candidates

- Do not open this examination paper until instructed to do so.
- A clean copy of the **business management formulae sheet** is required for this examination paper.
- Section A: answer all questions.
- Section B: answer one question.
- Answers must be written within the answer boxes provided.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[40 marks]**.

16 pages

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16EP01

Section A

Answer **all** the questions in this section.

1. Galileo Manufacturing Ltd. (GM)

Galileo Manufacturing Ltd. (GM) is a private limited company that operates a manufacturing facility on the International Space Station. Using a three-dimensional (3D) printer, *GM* manufactures parts and tools for use by the National Aeronautics and Space Administration (NASA) of the United States (US) government. NASA is *GM*'s sole customer. Soon, *GM* will expand its manufacturing capacity to make large items, such as satellites, that NASA can then put into orbit.

A new manufacturing facility with increased capacity will cost \$40 million. Expected profit from the new manufacturing facility is given in **Table 1** below.

Table 1: Expected profit from GM's new manufacturing facility

Year	1	2	3	4
Forecasted annual profit (in millions of dollars)	8	12	16	16

The US government has contracted to purchase the manufacturing facility from *GM* at the end of four years for \$2.5 million.

- (a) State **two** advantages of a private limited company. [2]

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- (b) For the new manufacturing facility:
- (i) calculate the payback period (*show all your working*); [2]

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(This question continues on the following page)



(Question 1 continued)

(ii) calculate the average rate of return (ARR) (*show all your working*); [2]

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(iii) comment on your answer from **either** b(i) **or** b(ii). [2]

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(c) Explain **one** reason for *GM* manufacturing on the International Space Station. [2]

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2. Design by Elaine (DBE)

Elaine, an artist and designer, operates as a sole trader under the name *Design by Elaine (DBE)*. To improve brand awareness, she opened a four-month pop-up shop* in a shopping centre. *DBE*'s estimated cash inflows, outflows and opening cash balance for the four months are shown in **Table 2**. Elaine sold existing stock (inventory).

Table 2: Selected financial information for *DBE*'s four-month pop-up store

Estimated revenue per month	\$2000 for the first month, increasing by 10% each following month
Monthly rent	\$1000
Opening cash balance	\$500
Electricity cost per month	\$200
Elaine's monthly salary	\$500
Promotional expenses	\$200 in the first and third month

The pop-up shop performed less well than Elaine had forecasted. Revenue peaked in the third month but fell in the fourth. Her closing cash balance was \$1800. Towards the end of the fourth month, the shopping centre owner, Jack, asked Elaine whether she would like to continue operating the pop-up shop. He offered her a two-year lease on the shop, with a monthly rental of \$1400. Elaine's existing stock was almost depleted.

* pop-up shop: a shop (store) that is opened for a short period of time

(a) State **two** advantages of operating as a sole trader.

[2]

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(This question continues on the following page)



(Question 2 continued)

- (b) Using **Table 2**, prepare a cash-flow forecast for *DBE* for the four months of operation of its pop-up shop. [6]

- (c) Comment on whether Elaine should continue to operate her pop-up shop for two more years. [2]

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Please **do not** write on this page.

Answers written on this page
will not be marked.



16EP06

Section B

Answer **one** question from this section.

3. Beacon Meals Enterprises (BME)

Yimin Xie founded *Beacon Meals Enterprises (BME)* in 1993. *BME* is a non-profit social enterprise that operates in the San Francisco Bay area of the United States of America (USA). Because of a large number of billionaires in the San Francisco Bay area, housing prices are very high. As a result, the area has one of the highest rates of homelessness in the USA.

BME operates four restaurants in the area. All meals are free, although *BME* accepts donations from customers. Almost all the customers are homeless.

(a) State **two** features of a social enterprise. [2]

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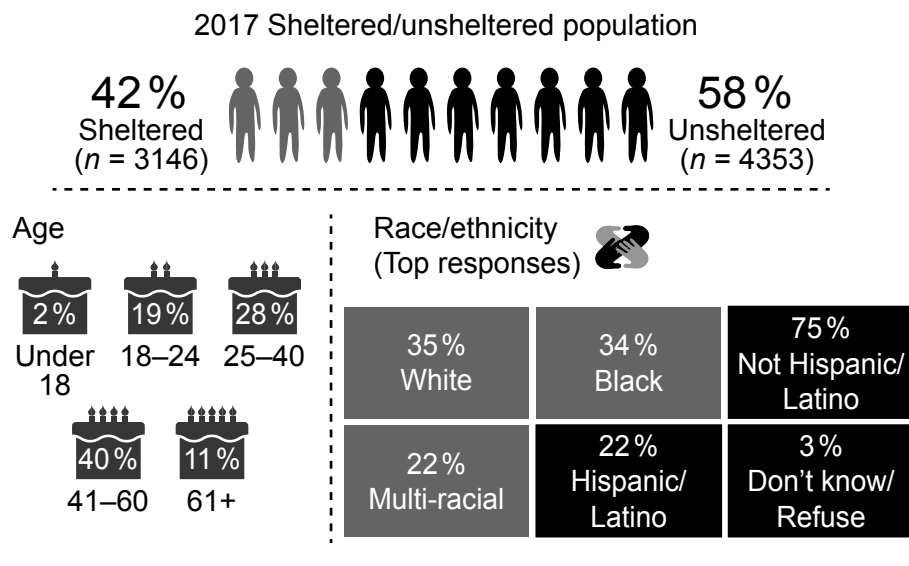
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Figure 1 shows results from a count and survey of homeless people in the city of San Francisco. Sheltered population are defined as homeless people who have a place to stay, while unsheltered population are defined as homeless people who do not have a place to stay.

Figure 1: Results of a count and survey of homeless people in San Francisco



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Turn over

(Question 3 continued)(b) Comment on **one** of the three data sets in **Figure 1**.

[2]

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BME pays rent on its four restaurant locations. Each restaurant is small and seats around 10 people at a time. *BME*'s assets include four medium-sized vans (one for each restaurant), kitchen equipment, tables and chairs. *BME* relies on charitable contributions, both of money and food. The enterprise has two paid employees: the Chief Executive Officer (CEO) and the Chief Operating Officer (COO), both on low salaries. Every other employee is a volunteer.

Table 3 gives financial information for *BME* for the year ending 31 December 2021.

Table 3: Financial information for *BME* for the year ending 31 December 2021 (all figures in \$)

Accumulated depreciation	120 000
Cash	22 000
Cash donations (revenue)	480 000
Cost of meals produced	400 000
Creditors	30 000
Debtors	0
Donations of food (revenue)	150 000
Fixed assets	500 000
Government grant (revenue)	120 000
Interest	11 000
Long-term debt	220 000
Retained surplus (equivalent to retained earnings)	125 000
Short-term loans	12 000
Stock	5 000
Tax	0
Two salaries and all other expenses	325 000

(This question continues on the following page)



(Question 3 continued)

(c) Using **Table 3**, calculate:

(i) *BME's total liabilities at the end of 2021 (show all your working);* [2]

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(ii) *BME's working capital at the end of 2021 (show all your working);* [2]

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(iii) *BME's surplus at the end of 2021 (show all your working).* [2]

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16EP11

Turn over

4. Waldo Manufacturing PLC (WM)

Waldo Manufacturing PLC (WM), a public limited company, manufactures premium lighting fixtures for residences. In January 2020, the company increased its number of shares from 1 million to 1.2 million by selling 200 000 shares at \$50 per share. *WM* also borrowed \$20 million in the form of a bank loan.

The funds from both sources were used to shift from a mass production process to a mass customization process. The change in how *WM* manufactured its products also had a significant impact on its marketing strategy.

Employee reaction to the shift in processes was largely supportive, although employees were also nervous about the impact the shift might have on the profit-sharing bonuses at the end of the year.

(a) Define the term *mass customization*.

[2]

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Selected financial data for *WM* is shown in **Table 4**.

Table 4: Selected financial data for *WM* for the years ending 2019, 2020, and 2021

	2019	2020	2021
Sales revenue (\$)	120 000 000	122 000 000	145 000 000
Gross profit margin	50 %	50 %	48 %
Profit margin	5 %	5 %	2 %

(b) Using **Table 4**, comment on:

(i) *WM*'s sales revenue data;

[2]

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(This question continues on the following page)



(Question 4 continued)

(ii) WM's gross profit margin **and** profit margin.

[2]

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The Chief Financial Officer (CFO) prepared forecasts for 2022, as shown in **Table 5**.

Table 5: Selected forecasted financial information for 2022

Sales revenue	Sales will increase by 20%
Average sales price per unit (\$)	1000
Variable costs per unit (\$)	600
Fixed costs (\$)	66 120 000

(c) Based on the data in **Table 4** and **Table 5**, calculate the forecasted sales revenue for 2022 (*no working required*).

[1]

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(This question continues on the following page)



(Question 4 continued)

(d) Based on the information in **Table 5**, calculate:

(i) the forecasted contribution per unit for 2022 (*no working required*); [1]

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(ii) the forecasted profit margin for 2022 (*show all your working*). [2]

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The CFO's financial forecasts proved very accurate. At the annual shareholders' meeting at the end of 2022, the shareholders were divided: some were pleased by the results of the first two years of mass customization, while others were dissatisfied. The dissatisfied group became even angrier when the CFO announced that the company was to issue another 200 000 shares at \$40 per share. The \$8 million that would be raised by the sale of the shares was necessary to support *WM*'s increased working capital requirements.

At the annual general meeting, the head of the Human Resources Department reported that the number of *WM*'s employees had increased significantly over the past two years. In 2020, the year before shifting to mass customization, *WM* employed 1200 people; by the end of 2022, *WM* employed 1500 people.

(e) Using the information in the stimulus, evaluate *WM*'s decision to shift from mass production to mass customization. [10]

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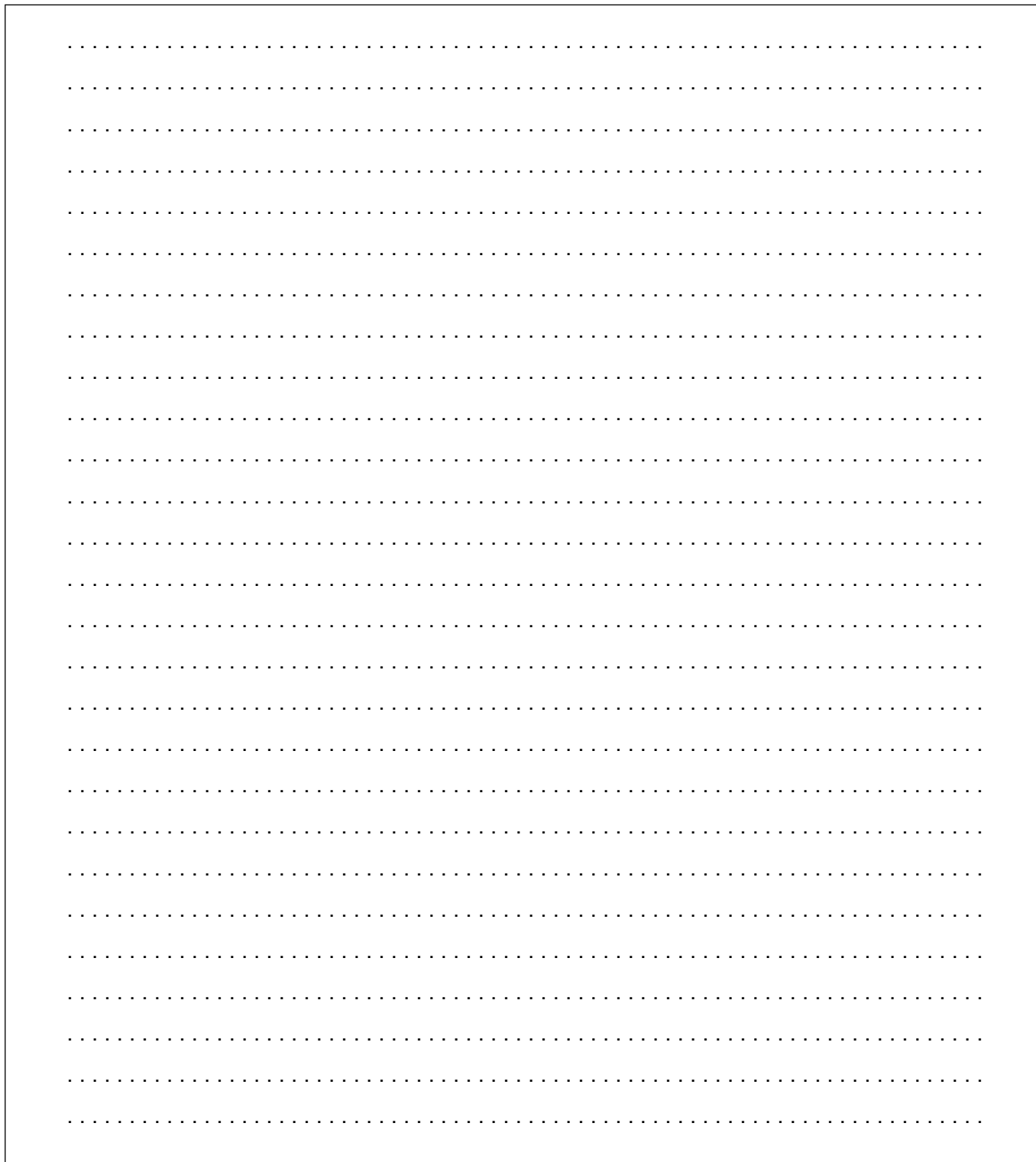


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16EP15

Turn over



References:

Figure 1. San Francisco Department of Homelessness and Supportive Housing, 2017. *Applied Survey Research. (2017). San Francisco County Homeless Count & Survey. Watsonville, CA.* [online] Available at: <https://live-hsh-sf.pantheonsite.io/wp-content/uploads/2017/06/San-Francisco-PIT-Executive-Summary-FINAL-6.21.17.pdf> [Accessed 9 July 2021]. SOURCE ADAPTED.



16EP16

Markscheme

Specimen paper

Business management

Standard level

Paper 2

The markbands on page 5 should be used where indicated in the markscheme.

Marks	Level descriptor
0	The work does not reach a standard described by the descriptor.
1–2	<ul style="list-style-type: none"> • Little understanding of the demands of the question. • Little use of business management tools and theories; any tools and theories that are used are irrelevant or used inaccurately. • Little or no reference to the stimulus material. • No arguments are made.
3–4	<ul style="list-style-type: none"> • Some understanding of the demands of the question. • Some use of business management tools and theories, but these are mostly lacking in accuracy and relevance. • Superficial use of information from the stimulus material, often not going beyond the name of the person(s) or name of the organization. • Any arguments made are mostly unsubstantiated.
5–6	<ul style="list-style-type: none"> • The response indicates an understanding of the demands of the question, but these demands are only partially addressed. • Some relevant and accurate use of business management tools and theories. • Some relevant use of information from the stimulus material that goes beyond the name of the person(s) or name of the organization but does not effectively support the argument. • Arguments are substantiated but are mostly one-sided.
7–8	<ul style="list-style-type: none"> • Mostly addresses the demands of the question. • Mostly relevant and accurate use of business management tools and theories. • Information from the stimulus material is generally used to support the argument, although there is some lack of clarity or relevance in some places. • Arguments are substantiated and have some balance.
9–10	<ul style="list-style-type: none"> • Clear focus on addressing the demands of the question. • Relevant and accurate use of business management tools and theories. • Relevant information from the stimulus material is integrated effectively to support the argument. • Arguments are substantiated and balanced, with an explanation of the limitations of the case study or stimulus material.

Section A

1. (a) State **two** advantages of a private limited company. **[2]**

Advantages of a private limited company include:

- limited liability for the shareholders
- easier to raise capital than it is for a sole trader or partnership
- business continues to exist when a shareholder dies
- cannot lose control, as sale of shares must be approved by all shareholders.

Accept any other relevant advantage.

Award [1] for each advantage stated, up to a maximum of [2].

- (b) For the new manufacturing facility:

- (i) calculate the payback period (*show all your working*); **[2]**

All figures below are in millions.

$$\text{Profit is } \$8 + \$12 + \$16 + \$16 = \$52$$

$$\text{In the first three years, the profit is } \$8 + \$12 + \$16 = \$36$$

$$\$40 \text{ [total cost]} - \$36 \text{ (profit in first three years)} = \$4$$

$$\begin{aligned} &\text{Divide } \$4 \text{ by } \$16 \text{ (profit in the fourth year) and then multiply by 12 months} \\ &= \frac{\$4}{\$16} \times 12 \text{ months} = 3 \text{ months} \end{aligned}$$

The payback period is 3 years and 3 months.

Accept 3.25 years or 3 1/4 years.

If a candidate says something like “the payback is in the fourth year,” award [1].

Allow for own figure rule (OFR).

Award [1] for the correct answer and [1] for correct workings, up to a maximum of [2].

- (ii) calculate the average rate of return (ARR) (*show all your working*); [2]

Year	0	1	2	3	4
Forecasted annual profit (in millions of dollars)		\$8	\$12	\$16	\$16

All figures below are in millions.

$$\$8 + \$12 + \$16 + (\$16 + \$2.5[\text{residual value}]) = \$54.5$$

$$\$54.5 [\text{total profit}] - \$40 [\text{initial cost}] = \$14.5$$

$$\frac{\$14.5}{4} \text{ years} = \$3.625$$

$$\frac{\$3.625}{\$40} \times 100 = 9.0625 \%$$

Accept 9.06 %.

Allow for own figure rule (OFR).

Award [1] for the correct answer and [1] for correct workings, up to a maximum of [2].

- (iii) Comment on your answer from **either** b(i) **or** b(ii). [2]

Candidates may make any accurate commentary, as long as it reflects information in the responses to either of the two investment appraisal calculations. Examples include:

- The payback period was well short of the contract period. Thus, if *GM* runs into unanticipated expenses, the company has some margin of error to receive full payback on its funds.
- Whereas no industry averages are provided (they are not available, as *GM* is *sui generis*), the average rate of return is a respectable 9.06 %. This investment is on a government contract. *GM* has no competition, and the risk of being in space (very risky) is presumably built into its existing return consideration. For this marginal investment, the 9.06 % represents a respectable return.
- Even if some dissatisfaction exists among *GM*'s shareholders about the investment yield (ARR of 9.06 %), *GM* may well be wise to make the investment and accept the contract in order to position itself as the first manufacturer in outer space and to secure its place with NASA and the US government.

Accept any other relevant commentary.

Award [1] for a basic commentary that is largely descriptive. Award an additional [1] if the candidate offers some reasonable explanation, up to a maximum of [2].

(c) Explain **one** reason for *GM* manufacturing on the International Space Station. **[2]**

- The proposed investment is profitable and, presumably, has acceptable return rates for *GM*.
- Infrastructure availability: *GM* is ready to expand capacity, from tool manufacturing to satellite manufacturing. Space exists on the space station.
- Proximity to the market: satellites are bulky and heavy items, so being manufactured in space should bring transportation costs down.
- Development of expertise: no one else is manufacturing in outer space, and this would give *GM* a chance to develop its expertise in this area.

Accept any other relevant reason.

*Award **[1]** for identification of a reason and an additional **[1]** for explanation and application, up to a maximum of **[2]**.*

2. (a) State **two** advantages of operating as a sole trader. [2]

Advantages of operating as a sole trader include:

- easy and inexpensive to set up
- owner is in complete control
- owner keeps all profits
- flexibility in terms of working hours.

Accept any other relevant advantage.

Award **[1]** for each advantage stated, up to a maximum of **[2]**.

(b) Using **Table 2**, prepare a cash-flow forecast for *DBE* for the four months of operation of its pop-up shop. [6]

<i>All financial figures are in \$</i>	Month 1	Month 2	Month 3	Month 4
Opening balance	500	600	1100	1620
Cash inflows				
Sales	2000	2200	2420	2662
Total cash inflows	2000	2200	2420	2662
Cash outflows				
Rent	1000	1000	1000	1000
Electricity	200	200	200	200
Salary	500	500	500	500
Promotion	200	0	200	0
Total cash outflows	1900	1700	1900	1700
Net cash flow	100	500	520	962
Closing balance	600	1100	1620	2582

Accept slightly different headings / format.

N.B. Allow candidate own figure rule (OFR): if a candidate makes an error in one row and carries it through the remainder of the forecast that is only one error. This provision includes both mathematical errors and conceptual errors (for example, if a candidate has the interest in the incorrect month then candidates should only lose [1] for that error.

If a candidate misclassifies an item, like salary, as an inflow, consider that as one error.

Award [1] if the candidate conveys some understanding of what a cash flow forecast is, but otherwise the forecast is largely inaccurate, incomplete, or illegible.

If the candidate produces a cash flow as below:

<i>All financial figures are in \$</i>	Month 1	Month 2	Month 3	Month 4
Opening balance	500	600	1100	1620
Total cash inflows	2000	2200	2420	2662
Total cash outflows	1900	1700	1900	1700
Net cash flow	100	500	520	962
Closing balance	600	1100	1620	2582

Award a maximum of [5] if otherwise fully correct. Deduct any further marks according to the guidance above for mathematical and conceptual errors.

Award [2–3] if a cash flow forecast is drawn, but either it is not in a generally accepted format or it is untidy, and/or the forecast contains three or more errors, which could include, in addition to number placement problems and mathematical errors, conceptual errors (using the word “profit” rather than “net cash flow”) or omissions, such as not having a line like “closing balance” or totals.

Award [4–5] if the cash flow forecast is drawn essentially correctly and neatly in a generally accepted format, but there is one error for [5] or two errors for [4].

Award [6] if the cash flow forecast is drawn accurately and neatly in a generally accepted format and is error free. If the candidate provides a heading of total cash inflow/total cash outflow without using another heading above of cash inflow or cash outflow – do not penalize as an omission.

If the candidate omitted both headings of cash outflow/cash inflow that is one error, using the term “net profit in the cash flow forecast” instead of “net cash flow” is inaccurate and [1] should be deducted. If the candidate has only one row for all cash outflows, deduct [1] from the total mark awarded.

Full working is not expected.

- (c) Comment on whether Elaine should continue to operate her pop-up shop for two more years.

[2]

Had Elaine been paying \$1400 a month from inception, her cash balance at the end of month four would have been only \$982. This situation means, given that she had an opening balance of \$500, her pop-up shop actually had a net cash inflow of \$482 over the four-month period.

In addition, the fact that sales revenue peaked in the third month and then fell gives some reason to believe that the product life cycle of her pop-up shop has reached the decline stage.

The presence of the pop-up shop probably enhanced Elaine's brand, but it appears that barely sufficient demand exists in her current cost structure. Closing the shop after four months will lower her costs considerably. She should probably consider closing the shop, operating her design business out of her home, and generating sales online.

Award [1] if the candidate calculates the financial impact, had Elaine been paying \$1400 a month for the first four months or provides a contextualized response based upon the cashflow showing some understanding of cash flow challenges the business would face if it extended the lease and an additional [1] for another relevant comment, such as:

- Actual cash flow in the first four months was barely positive.
- Evidence suggests that the life cycle of her pop-up is in the decline phase.
- An e-business might better support her, as it would mean substantially lower costs.

Accept any other relevant comment.

Section B

3. (a) State **two** features of a social enterprise. [2]

Features of a social enterprise include:

- Social enterprises have a clear public mission, that is, a mission to perform some social good.
- Social enterprises engage in business-like activities to generate funds to cover expenses.
- Social enterprises are mostly not for profit or, if for profit, retain most earnings to further support the public mission of the enterprise.
- Most social enterprises are socially progressive, not just in economic matters but also in matters of diversity, inclusion and social justice.

Accept any other relevant feature.

*Candidates are **not** expected to word their responses **exactly** as above.*

Award [1] for each feature identified up to a maximum of [2].

- (b) Comment on **one** of the three data sets in **Figure 1**. [2]

Set 1: 58 % of the homeless population is unsheltered, suggesting that a majority have limited connection to social services.

Set 2: Over two thirds of homeless people in the area are between 25 and 60 years old and very few are under 18 years old or over 60 years old. The young still have the protective care of their parents and people over sixty have either found resolution to their previous homeless predicament or have died.

Set 3: Homelessness affects virtually all races/ethnicities. Thus, the social and economic forces driving homelessness touch on all races and ethnicities.

The stimulus has three different sets of data (sheltered versus unsheltered, age and race/ethnicity).

Award [1] if a candidate restates a data set in words (“58 % of the population is unsheltered”). Award an additional [1] if the candidate provides some reasonable interpretation, that is, the candidate goes beyond restating the data set in words.

A candidate might note, if they have some understanding of the demographics of San Francisco, that homelessness in San Francisco disproportionately affects black Americans, who only make up 6 % +/- of the city’s population yet 34 % of the homeless population. However, examiners cannot expect candidates to have any demographic or sociological knowledge about the United States other than the data in the exam.

Here, it is important to see if candidates can draw some reasonable inference from the data.

(c) Using Table 3, calculate:

- (i) *BME's total liabilities as at the end of 2021 (show all your working).* **[2]**

Total liabilities were
Creditors + short-term loans + Long-term debt

$$\$30\,000 + \$12\,000 + \$220\,000 = \$262\,000$$

Total liabilities were \$262 000

Award [1] for correct working and [1] for a correct answer.

- (ii) *BME's working capital as at the end of 2021 (show all your working).* **[2]**

Working capital is calculated by subtracting current liabilities from current assets.

$$\begin{aligned} \text{Current assets} - \text{current liabilities} &= \text{working capital} \\ (\text{Cash} + \text{stock}) - (\text{Creditors} + \text{short-term loans}) &= \text{working capital} \\ (\$22\,000 + \$5\,000) - (\$30\,000 + \$12\,000) &= -\$15\,000 \end{aligned}$$

Working capital was –\$15 000

Award [1] for correct working and [1] for a correct answer.

- (iii) *BME's surplus as at the end of 2021 (show all your working).* **[2]**

	Figures in \$000's
Cash donations	480
Donations of food	150
Government grant	<u>120</u>
Total revenue	750
Cost of meals produced	<u>(400)</u>
Gross profit	350
Expenses	<u>(325)</u>
Surplus before interest	25
Interest	(11)
Surplus before tax	14
Tax	<u>(0)</u>
Surplus for period	14

Candidates do not have to produce a proper P & L account. If they choose, they can add up revenue and add up expenses and subtract the expenses from the revenue.

Award [1] for a correct method/working and [1] mark for correct answer.

- (d) Using the information in the stimulus, discuss the rewards and challenges Yimin might experience while running *BME*.

[10]

Yimin probably enjoys a number of rewards in running the social enterprise.

- Most importantly, he is providing decent food to people who otherwise might not be able to purchase food and, even if they could, may have no place to store or cook it. People properly fed are healthier and have more energy, which might be important for them as they try to get out of their current situation of homelessness.
- Yimin probably also enjoys the fact that people donate food that otherwise would become waste. In reducing waste, *BME* is making its contribution, however small, to reducing greenhouse gases and improving the environment.
- Finally, Yimin probably feels greatly rewarded by the fact that *BME* has grown into a small chain of four restaurants. Social entrepreneurs are entrepreneurs, and seeing this organization survive and grow is probably a source of pride.

BME, however, faces several challenges, including the usual business challenges as well as challenges that are unique to many social enterprises:

- Reliance on donations of cash, food and government grants for revenue. If ever one of these sources of revenue fell significantly, *BME*, which operates on very thin margins, would operate at a loss.
- Use of donated food typically right before its spoilage means that the restaurants have to make food-preparation and menu decisions every day. Whether *BME* has enough of the right ingredients could also mean having to produce different menu items over the course of the day.
- Other than the CEO and COO, *BME* relies entirely on a volunteer labour force. Because they are volunteers, *BME* has less ability than most businesses to require people to come to work on specific days, making scheduling challenging.
- The business has only four vehicles for four restaurants. If any one of the vehicles is under repair, a restaurant will not have a lorry, which could hinder its ability to procure low-cost supplies.
- *BME* has very thin margins. Any major unexpected cash outflow would probably mean negative cash flow.

Another challenge now facing *BME* is the rising number of complaints in the neighbourhoods where *BME* operates. Here, *BME*'s success – homeless people knowing that *BME*'s restaurants are reliable places to get a meal and thus gathering there – is causing a conflict with another stakeholder, the neighbourhood communities.

We cannot expect candidates to have any knowledge, other than from the data in the exam, about homeless populations. However, a candidate might also say something along the following lines, which should be accepted: Homeless populations have higher rates of mental illness than the general population. For *BME*, this situation means that some of its customers may suffer from mental illness and might be more prone to unruly or difficult behaviour, which an all-volunteer staff has to manage.

Marks should be allocated according to the markbands on page 5.

- 4. (a) Define the term *mass customization*. [2]

Mass customization is a relatively new mass manufacturing technique that has the flexibility of personalization of products but also has the low unit cost typically associated with mass production. Usually used in retail settings, mass customization allows a customer to choose certain features or to modify certain features of the product that they want.

*Candidates are **not** expected to word their definition **exactly** as above.*

Award [1] for partial understanding. Award [2] if the candidate conveys understanding that mass customization offers both flexibility and low cost.

- (b) Using **Table 4**, comment on:

- (i) *WM's sales revenue data;* [2]

Customers like the fact that they can now customize their purchases. Sales grew at a rate of almost 19 % in 2021 compared to a sales growth rate of 1.67 % in 2020.

Award [1] for a basic explanation and an additional [1] for a full explanation of the candidate's interpretation including direct reference to the data, up to a maximum of [2].

A basic explanation might be a response such as, "sales revenue is increasing year on year" or "sales revenue went up more in the second year".

- (ii) *WM's gross profit margin and profit margin.* [2]

WM has not been able to pass on fully the costs of mass customization to its customers. Both the gross profit margin and the profit margin are lower in 2021 than in the previous two years.

Award [1] for a basic explanation and an additional [1] for a full explanation of the candidate's interpretation including direct reference to the data, up to a maximum of [2].

A basic response would be something like, "The gross profit margin and the profit margin are lower".

- (c) Based on the data in **Table 4** and **Table 5**, calculate the forecasted sales revenue for 2022 (*no working required*). [1]

$$\$145\,000\,000 \times 1.2 = \$174\,000\,000.$$

Forecasted sales revenue for 2022 is \$174 000 000.

Award [1] for the correct answer.

- (d) Based on the information in **Table 5**, calculate:

- (i) the forecasted contribution per unit for 2022 (*no working required*); [1]

$$\$1000 - \$600 = \$400.$$

The forecasted contribution is \$400.

Award [1] for the correct answer.

- (ii) the forecasted profit margin for 2022 (*show all your working*). **[2]**

Forecasted sales revenue	\$174 000 000
Forecasted variable costs	(\$104 400 000)
Forecasted Fixed costs	<u>(\$ 66 120 000)</u>
Forecasted profit before tax	\$3 480 000

$$\frac{\$3\,480\,000}{\$174\,000\,000} \times 100 = 2\%$$

The forecasted profit margin for 2022 is 2 %.

Award [1] if the candidate demonstrates how to calculate the profit margin but makes a mathematical error.

Award [2] if the candidate demonstrates how to calculate the profit margin and produces the correct answer.

If the candidate produces the correct answer but does not show workings, award [1].

Apply the own figure rule (OFR).

- (e) Using the information in the stimulus, evaluate *WM*'s decision to shift from mass production to mass customization. **[10]**

WM only recently switched to mass customization. The switch has produced both positive and negative indicators.

On the positive side, sales at the company have grown considerably, indicating that customers like the fact that they can customize their purchases. Further, mass customization is a general trend in the manufacture of retail products. Although *WM* may not have been a first mover in regard to mass customization in the premium lighting fixture market, the strong surge in sales suggests it was a fairly early adopter, meaning it has the opportunity to build some brand identity around customization before everyone is doing it.

However, *WM* has not been able to pass on all of its costs to customers, as the gross profit margin and the profit margin have contracted considerably. *WM* projects that the profit margin will remain at 2 % in 2022. While the company is enjoying some benefit from mass customization, increased sales, its profit margin, at 2 %, is still well below the profit margin of 5 % that the company had prior to 2021.

A challenge that *WM* faces with rapidly rising sales is working capital adequacy. *WM* is to issue and sell 200 000 shares of stock to raise \$8 million in working capital. Probably the lower profit margin and the dilution that will come with issuing extra shares explain the fall in stock price to \$40 from the \$50 it was prior to the introduction of mass customization. Some shareholders are justifiably unhappy.

WM probably thought that it had to issue shares rather than take on additional debt. First, banks are wary of making long-term loans to fund current assets. Further, *WM* already had considerable debt – the \$20 million it borrowed to convert to mass customization and, probably, other debt (as virtually all businesses rely on leverage).

To support the growth in sales, *WM* has expanded its workforce by 300 people. Prior to mass customization, *WM* averaged \$101 667 in sales revenue per employee. By the end of 2022, *WM* is projected to average \$116 000 in sales for each employee. Thus, even though the productivity per employee has increased, the prospects of diminished bonuses exists, as the company has lower margins. This situation could take a toll on employee morale.

The big question is whether *WM* will start to enjoy economies of scale that will offset the high costs that it incurred with mass customization and which, at least initially, could not be passed on to customers.

Marks should be allocated according to the markbands on page 5.
