Zig Zag Education
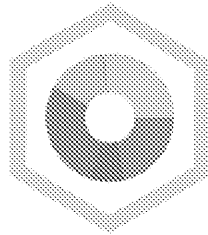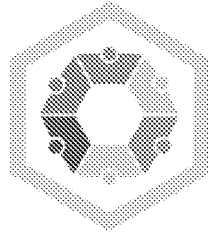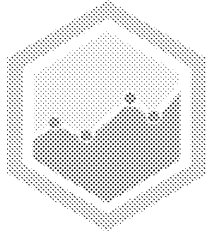
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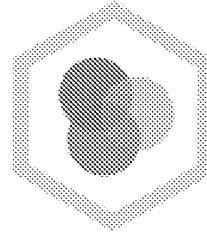
Quantitative Skills Workbook

for GCSE 9–1 AQA Business

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POD 11126

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Contents

TEACHER'S INTRODUCTION

This resource is written to meet the needs of students preparing to sit GCSE Business exams with AQA (8132) course. It is designed to help your students master the vital quantitative skills. All material has been produced after a thorough assessment of the specimen papers to ensure that the questions are written in a similar format, tone and style to those students will face in the real exam.

> **Remember!**
> Always check the exam board website for new information, including changes to the specification and sample assessment material.

Many candidates find the quantitative questions tricky, and such questions are commonly dreaded by students. The well-known saying, though, suggests 'practice makes perfect', and hopefully the questions within this resource will help learners to perfect their exam skills, which will be particularly critical given the linear assessment requirements. As the two exams are sat at the end of the course it is essential that students are familiar with the style and content of the questions to give them the best chance of securing pleasing results. Hopefully, after plenty of opportunities to practise their quantitative skills, learners will find the prospect of questions demanding mathematical skills less daunting.

USING THIS RESOURCE
This resource can be used in a number of ways to help students to prepare for their GCSE exam. It can be used independently by students or as a teacher-led exercise. Here are a few suggestions.

Homework: The questions could be completed by students as homework tasks. Students could be given one or two sections to complete in the run-up to the exam, or alternatively the questions could be divided up and given to students as they progress through the various topics to review their learning.

In-class exam: The questions can be combined to make ideal mock exams to complete under timed exam conditions as the individual questions are based on the format of the final exams. Teachers could select topic areas that they specifically wish to test and/or topics that they have already covered for mock exams mid-way through the course. There is a mark scheme with suggested answers to accompany every question. The mock exam will then enable teachers to pinpoint the topics that students find challenging, review their exam technique / time management and tailor any intervention activities appropriately. The benefit of using these questions to produce mock exams is that the mark schemes are not in the public domain (unlike past and specimen papers produced by the exam boards which are posted on their website) so they give teachers a true picture of how students perform when tackling an unseen paper.

In-class learning: The questions could be 'walked through' in their entirety or divided up into sections to give the students guidance related to the requirements of an exam. Using the mark schemes, teachers can inform learners how marks are awarded and the difference between the levels on the extended-mark questions.

Exam technique: The questions can be used to help students of all levels to enhance their exam technique. They can become familiar with what is required from an 'identify', 'calculate' and 'analyse' question so they are aware of the detail expected for each level of response. Students could complete a range of question styles and peer-mark their responses to the practice questions to give them the opportunity to 'think like an examiner'.

Revision: When the students are approaching their final exams, a topic could be given to them to complete. This technique may be particularly appropriate for over a holiday period, e.g. Easter or half-term. When the students return from their holiday, the teacher can mark the questions and also share the mark scheme with the students so they can see how their responses compare.

THE SPECIFICATION AND EXAM

WHAT TOPICS COULD ASSESS QUANTITATIVE SKILLS?

Mathematical skills are an important part of the GCSE Business specification. Th⟩
candidates' quantitative skills will assess the ability to process and analyse nume⟩
situation. Some questions may ask candidates to perform a calculation, whereas⟩
learners to use mathematical skills to make, and justify, business decisions supp⟩
qualitative data. A minimum of 10% of total marks across the qualification invol⟩

Generally, the minimum level of mathematics required for GCSE Business will be⟩
Mathematics. However, within the business papers the c⟩ ons will require b⟩
and/or test the ability to calculate and analyse nu⟩ ⟩ ata within a business⟩

The following table shows the ⟩ ⟩ skill topics covered by the AQA specif⟩
skills will be presented ⟩ ⟩ iess context.

Candidates should be able to calculate:
Percentages and percentage changes
Averages
Revenue, costs and profit
Break-even quantity
Gross profit margin and net profit margin ratios
Average rate of return
Cash flow forecasts
Candidates should be able to interpret the following ways of presenting quan **make and justify business decisions:**
Graphs and charts
Profitability ratios
Financial data
Marketing data, e.g. market research data
Market data, e.g. market share, changes in costs and changes in price

The AQA qualification is assessed via two papers which are equally weighted to de⟩
Quantitative skills are assessed in both papers, and the topics covered by this reso⟩

Paper 1: Influences of operations and HRM on business activity		Paper 2: Infl finance
Written exam – 1 hour 45 minutes 90 marks 50% of fina⟩	+	Written e⟩ 50%⟩

FORMUL⟩

No formulae are generally given within the exam papers so candidates need to r⟩
exam. Students may also be asked by AQA to state the formula within questions⟩

Calculators can be used by students when sitting the two AQA papers. Students⟩
meets the requirements as set out in the JCQ Instructions for conducting examin⟩
5.9 of the AQA specification.

COMMAND WORDS

The following table outlines some of the commonly used command words for th[...]
face. These words are critical as they inform candidates how to approach their a[...]
outlined on the AQA website.

Command word	Overview
Advise	Using business knowledge, students write an extended a[...] two options given to a business; or their suggestion for th[...] business should take as underpinned by their business kn[...]
Analyse	Students explore a business concept/idea, developing an[...] context given in the question. The results from quantitat[...] support an analysis.
Calculate	Complete a numerical calc[...] work out an answer[...] should avoid simply [...] the [...]swer to 'calculation' que[...] out on mark[...] the [...] answer is wrong. The examiner [...] meth[...] [...]en if the final answer is wrong (known as [...]
Define, describe o[...] what is m[...]y	[...] out fundamental points to outline a term.
Evalu[...]	Make a judgement based on the information available w[...] and drawbacks of the option(s).
Explain	Give a fact with two developed expansion points. There [...]
Give, list or state	Candidates should name something or itemise a range of[...] (sometimes list form or bullet points). There is often 1 m[...]
Identify	Students are required to extract the correct answer from[...] graph or a table; or extract the correct answer from theo[...] the course.
Recommend	Using business knowledge, students write an extended a[...] two options given to a business.

ASSESSMENT OBJECTIVES

Assessment objectives (AOs) are set by Ofqual and are the same for all exam bo[...]
qualifications. Please note that the weightings differ for Paper 1 and Paper 2 so [...]
advised to refer to the AQA specification for full details.

AO1	Demonstrate knowledge and understanding of business concepts an[...]
AO2	Apply knowledge and understanding of business concepts and issue[...]
AO3	Analyse and evaluate business information and issues to demonstra[...] activity, make judgements and draw conclusions

EXAM TECHNIQUE

Many students rush straight into writing their answer. This is inadvisable as rush[...]
do not address the questions asked and at best may lead [...] [...]orly structured re[...]
often helps to improve the quality of answers cor[...] [...] [...]owever, it is importar[...]
which may starve candidates of time to a[...] w[...] their answer.

Candidates should spend a f[...] [...]nu[...] [...]to plan their answer. They could use a s[...]
point list which outl[...] [...] [...]a[...] structure and key points. If time is planned we[...]
at the end [...]k [...] [...] answers, which is good practice, especially for quantitat[...]

Candidates a[...] normally advised to present all of their 'workings out' along with th[...]
marks are available for method used, which can enable candidates to be awarded [...]
answer is incorrect. This point is demonstrated in the mark scheme for the questi[...]

Candidates should also present their answers to one or two decimal places gene[...]
/ examination board instructs otherwise). It is, therefore, advisable to practise r[...]
appropriately to practise this skill in advance of the exam. All units should be inc[...]
– sometimes the questions require the inclusion of the unit with the answer, wh[...]
not necessary and full marks can be awarded without the unit. As it may not be [...]
advisable to include the unit so that no marks are lost as a result of this oversigh[...]

SECTION 1 – PERCENTAGES AND PERCENTAG

Percentages are commonly used within business. Percentages enable numbers t numbers. Percentages are basically a fraction out of 100%. They enable compar figures into context, e.g. a GCSE student may achieve a mark of 35 in both their t however, if the total marks available in the Biology exam was 80 but the total ma exam was only 50, it is clear that the student performed better in their Geograph answered a greater proportion of the marks available. This can be demonstrate for the Biology exam compared with 70% for the Geography exam.

To work out the percentage, you should divide the number to express as a perce whole and then multiply by 100.

$$Percentage = \frac{number\ to\ express\ as\ a\ percentage}{Total\ number\ of\ the\ whole} \times$$

In the GCSE ... es ... ensure that the % sign is always included within the a otherwise b ... It is also advisable to express the final answer correct to one c question ind ... es how many decimal places to work to, always follow this guida decimal places is usually considered sufficiently accurate.

Worked Example

Sidney achieved 89 marks out of a possible 130 marks in a class test. What perce answer correctly?

$$Percentage = \frac{Number\ to\ express\ as\ a\ percentage}{Total\ number\ of\ the\ whole} \times$$

The number that we wish to express as a percentage is Sidney's score of 89 mark exam marks is 130.

$$Percentage = \frac{89}{130}\ x\ 100$$

Percentage = 0.68461538 × 100
Percentage = 68.46% (correct to two decimal places)

Percentage changes may also be assessed in the exam and are mentioned in the changes are a way of putting the amount of an increase / a reduction in value int difference to the original value. For instance, the price of ... top was originally retailer reduced the price to £525. This is a reduc ... of £ 4 (£599 – £525). To c reduction in price you must consider the ... f the reduction (£74) as a percer

To work out the percer ... ge you should divide the difference in the value increase/d ...) ... original value and then multiply by 100.

$$Percentage\ change = \frac{Difference\ in\ values}{Original\ value} \times 10$$

Worked Examples

Percentage Reduction

The price of a laptop was originally £599, but during a sale the retailer reduced t
reduction of £74 (£599 – £525).

To work out the percentage reduction you should divide the difference in the va
decrease) by the original value and then multiply by 100.

$$Percentage\ change = \frac{Difference\ in\ values}{Original\ value}\ x$$

In the example of the laptop price reduction:

$$Percentage\ change = \frac{£599 - £525}{£599}\ x\ 100$$
$$= 12.35\%\ reduction$$

Percentage [...]se

A percentage increase is calculated using the same formula. For example, last ye
to purchase; however, the price of the same model car is £24,500 currently. This

To work out the percentage increase you should divide the difference in the valu
increase) by the original value and then multiply by 100.

$$Percentage\ change = \frac{Different\ in\ values}{Original\ value}\ x\ 10$$

In the example of the car price rise:

$$Percentage\ change = \frac{£24500 - £23000}{£23000}\ x\ 100$$
$$= 6.52\%\ increase$$

Sometimes formulas need to be rearranged. In this situation, it is a good idea to
formula and then rearrange it to find the missing figure.

Worked Example

Last year a sofa cost £500, but the price has risen by 20%. Calculate the new sel

To work out the percentage increase, you should divide the difference in the val
increase) by the original value and then multiply by 100.

$$Percentage\ change = \frac{Difference\ in\ values}{Original\ value}\ x\ 1$$

In the example of the sofa [...]e

$$Percentage\ change = \frac{?}{£500}\ x\ 100$$
$$= 20\%\ increase$$

The new price must be
= £500 + 20%
= £500 + £100 (20/100 * 500 = 100)
= £600

As this example shows, the formula can be rearranged to find a missing figure. T
checked by calculating the percentage change with the two prices – if it comes t

MULTIPLE-CHOICE QUESTIONS

1. A market research report predicts that the value of the market for grommets is set to rise by 4% over the coming year. If the market is currently worth £48,000, what will be the value at the end of next year?
   A. £46,080
   B. £48,400
   C. £49,920
   D. £50,200

   (1 mark)

2. Stacey is a taxi driver and the fare is a fare of £3.60 to drive a passenger from Currytown to Petaltown. She increases her fares by 20%. What is the new fare to drive a passenger from Currytown to Petaltown?
   A. £0.72
   B. £2.88
   C. £4.32
   D. £4.50

   (1 mark)

3. Pati's shop sells four brands of washing powder. Figure 1 shows the sales of each brand of washing powder. Which brand sells 25% of total sales?

   ### Sales of washing powder

   ▨ Whizz Whites   ▨ Dazzle
   ▦ Snowy Wonder   ▨ Crazi Clean
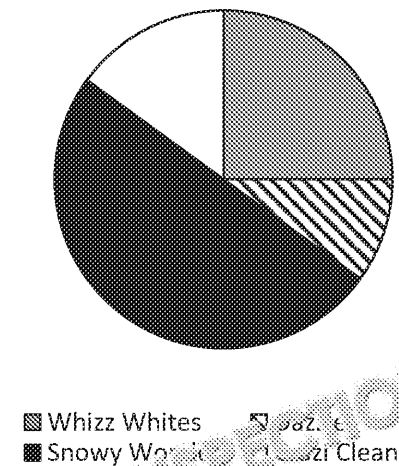
   Figure 1

   A. Whizz Whites
   B. Dazzle
   C. Snowy Wonder
   D. Crazi Clean

   (1 mark)

4. New Build Constr £378,678 in 2017 percentage chan
   A. 23.6%
   B. 30.8%
   C. -23.6%
   D. -30.8%

5. Colin invests £1,5 pays 2.5% interes does not touch th
   A. £1,462.50
   B. £1,500.00
   C. £1,537.50
   D. £1,575.00

6. 5% of all comple checked by Jaco control procedu one day, how m the business tha
   A. 13
   B. 130
   C. 1,300
   D. 13,000

7. Sales of Thingy £27,987 in 2017 percentage char
   A. -19%
   B. 19%
   C. -23.5%
   D. 23.5%

8. Jay achieved 65 number of mark Jay achieve?
   A. 52 marks
   B. 65 marks
   C. 70 marks
   D. 80 marks

9. A bottle of Wonda shampoo is normally 250 ml.
A sales promotion increases the bottle size by
25%. How much shampoo is offered per bottle
during the sales promotion?
    A. 62.5 ml
    B. 200 ml
    C. 300 ml
    D. 312.5 ml

(1 mark)

10. A business makes a profit of £276,000. Each
employee receives a share of 0.05% of the
profits as a profit-sharing bonus. How much
does each employee receive?
    A. £13.80
    B. £138
    C. £1
    D. £

(1 mark)

11. Yeti charges £8.80 for pizza in her restaurant.
On a Thursday evening she runs a promotion
whereby all meals are 15% cheaper before 7pm.
How much does it cost to buy a pizza on a
Thursday evening at 8pm?
    A. £7.48
    B. £8.00
    C. £8.65
    D. £8.80

(1 mark)

12. A business increases wages each year in line
with inflation. Inflation over the past year has
been 3%. David started to work at the business
one year ago with a starting salary of £15,000.
How much does he now earn?
    A. £15,000
    B. £15,450
    C. £15,900
    D. £15,927

(1 mark)

13. Callum achieved 55 out of a possible   mark   for
his Business Studies project.   centage
did he achieve?
    A. 5
    B.
    C. 6
    D. 80%

(1 mark)

14. Craig receives £
he is to receive
earning an extra
percentage pay
    A. 5%
    B. 8%
    C. 10%
    D. 25%

15. Pati's shop sells
Figure 2 shows
washing powde
total sales?

Sales
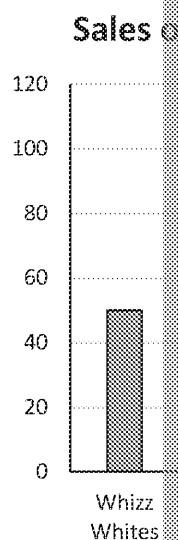
    A. Whizz Whit
    B. Dazzle
    C. Snowy Wo
    D. Crazi Clean

SHORT-/LONG-RESPONSE QUESTIONS

16. A business employs 730 full-time and 143 part-time employees. What perc█
    work part-time? Show all workings. Give your answer to one decimal plac█

17. 8% of employees left a business last year. If the business employed 200 at t█
    now work at the business? Show all workings.

18. Freshco Stores achieved sales revenue of £783,176 in 2018. This was 18.7%█
    achieved in 2017. What was the value of sales reven␣ ␣hieved in 2017? S█
    answer to the nearest whole pound.

19. The population of A␣␣␣␣␣ ␣␣␣␣nged from 547,200 to 673,563 during a five-█
    percent␣␣␣␣␣he␣␣ ␣␣ow all workings. Give your answer to one decimal p█

20. Bako Baked Beans cost 16p per can to produce. The producer uses cost-plu█
    margin to calculate the retail price. What is the price of one can of Bako Ba█
    Give your answer to the nearest whole penny (p).

21. Choccie chocolate bars cost 60p. A retailer decides to increase the price by █
    Show all workings. Give your answer to the nearest penny (p).

22. Employees receive a 15% discount on purchases from the company shop. T█
    items purchased by two employees who used their discount last week.

	Value of purchases	Discount received
Chris	£15.60	i)
Bobby	£25.60	ii)
Total cost of discount		iii)

    Provide the figures for i), ii) and iii) to show how █␣␣␣ ␣␣count each emplo█
    the business of discounts last week. Sho␣ y␣␣ ␣␣ ␣␣␣kings and answer to tw█

23. Elsie receives £␣ ␣␣␣␣ ␣␣␣ ␣␣ ␣␣ a commission of 10% of sales. Last week she█
    worth ␣␣␣␣ds ␣␣␣␣ulate how much she received last week.

24. Hamish and Robin own a café as a partnership. Hamish feels that he works █
    that he serves 65% of customers each day. Hamish served 85 customers to█
    many customers did Robin serve today?

25. The total value of sales in the custom-made skateboard market is £1,000,00[...]
    2016. If SS plc's sales are £135,000 in 2015 and £155,000 in 2016, calculate[...]
    each year. State whether this is an increase or a decrease in market share f[...]

26. GW uses cost-plus pricing to set the prices for Widgets and Grommets. Cost[...]
    business adds a percentage mark-up to the cost of manufacture, e.g. if a pro[...]
    the mark-up is 10%, the price charged will be £110.

	Widgets	
Cost of manufacture	£1.10	
Profit margin	55%	

Calculate the price of Widget [...] [...]mets. Show all workings and expres[...]
whole penny (p).
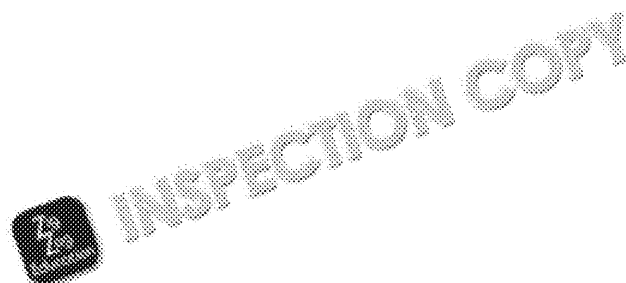
Section 2 – Averages

The average is the most typically occurring or middle value within a set of numb[...] several ways to calculate the 'average', e.g. mode, median and mean. For GCSE [...] the method commonly referred to as the 'mean'.

To calculate the average within a GCSE Business exam, you should add up all of t[...] total by the number of items added up.

$$Average = \frac{Add\ up\ the\ total\ of\ all\ of\ the\ figu[...]}{Number\ of\ figures}$$

Averages are important because they enable comparison[...] [...]e made between [...] enable data sets to be put into context by reducin[...] [...]act of any abnormall[...]

Worked Example

Suki is a mechanic and [...] [...] [...] number of MOTs that she has carried out fo[...] four month[...]

Mont[...]	Number of MOTs
June	34
July	28
August	20
September	38

To calculate the monthly average number of MOTs that Suki has carried out over[...] added up. The total of the four figures is then divided by 4 (since there are four [...]

$$Average\ number\ of\ MOTs\ per\ month = \frac{34 + 28 +[...]}{4}$$

$$Average\ number\ of\ MOTs\ per\ month = \frac{12[...]}{4}$$

$$Average\ number\ of\ MOTs\ per\ month = 3[...]$$

Therefore, Suki has carried out an average of 30 MOTs per month over the four-[...]

Some questions require the formula to calculate the average to be rearranged t[...]

Worked Example

A Maths teacher sets a test for three students in their class. The results of two [...]

Student	Mark in test
Harry	45
Chloe	36
Jayden	?

Unfortunat[...] [...] t[...] [...]returned the test paper to Jayden before making a n[...] know that t[...] [...]age mark in the test was 40. Calculate the mark that Jayden [...]

$$Average\ test\ mark = \frac{45 + 36 + ?}{3} = 40$$

The formula can be rearranged $= 40 \times 3 = 120$
$= 120 - (45 + 36)$
$= 120 - 81$
$= 39$

By rearranging the formula, the teacher has worked out that Jayden was award[...]

MULTIPLE-CHOICE QUESTIONS

1. The average mark in a test was 64 marks. Rhys scored 64 marks and Sam scored 70 marks. If only three students sat the test, what mark did Oliver achieve?
   A. 58 marks
   B. 60 marks
   C. 62 marks
   D. 64 marks

   (1 mark)

2. The sales revenue for Sarah's first five months of trading is shown below. What is the average sales revenue per month over the period to the nearest whole number?

Jan	£1,589
February	£2,050
March	£2,456
April	£2,247
May	£3,189

   A. £1,908
   B. £1,921
   C. £2,306
   D. £2,883

   (1 mark)

3. Bernie is planning to open a new business. He carries out some market research to find out the price charged by three competitors – £2.50, £3.79 and £1.99. What is the average price charged by the three competitors?
   A. £2.06
   B. £2.50
   C. £2.76
   D. £2.99

   (1 mark)

4. Forty clients use Catherine's chiropody service. If Catherine wishes to calculate the average spend per client, she must add up the total spend of all clients. What would she then divide this number by?
   A.
   B. 1
   C. 30
   D. 40

   (1 mark)

5. The average pri[ce]
   café is £3.59. T[he]
   varieties. If the[
   are £2.55, £3.5[0]
   the fifth type of[
   A. £2.55
   B. £3.48
   C. £4.00
   D. £4.30

6. The electricity c[
   business are sh[
   electricity cost p[
   nearest whole p[

January	
February	
March	
April	
May	

   A. £480
   B. £575
   C. £625
   D. £719

7. A supermarket [
   each month. Th[
   over the past si[x]
   store receive a [
   score over the s[
   Did the employe[

Month 1	[
Month 2	[
Month 3	[
Month 4	[
Month 5	[
Month 6	[

   A. Yes, the em[
   B. No, the em[
   C. The emplo[y]
      months on[
   D. The emplo[y]
      months on[

8. Which of the following statements is correct?
   A. Averages reflect a typical value in a given set of numbers
   B. Averages show the total of a group of numbers
   C. Averages are used by businesses when advertising to mislead customers
   D. Averages show the product of a group of numbers

   (1 mark)

9. Figure 3 shows the sales revenue for four products sold in a shop. What is the average sales revenue?
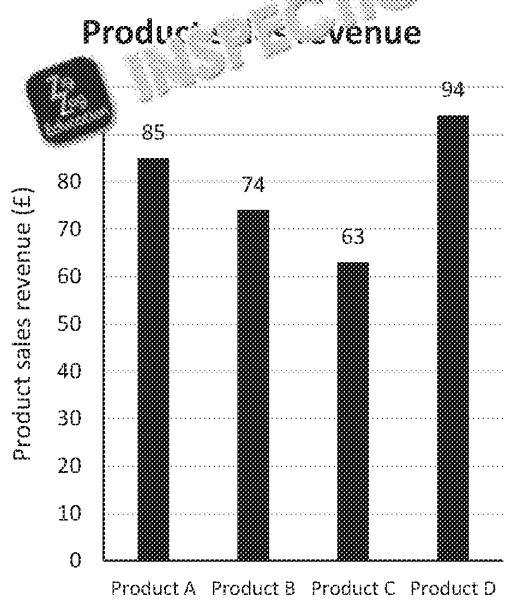
Figure 3

   A. £60
   B. £69
   C. £74
   D. £79

   (1 mark)

10. Stuart is planning to open a new shop and has obtained four quotes to decorate the shop premises before he opens. Here ar~ ~~ ~uc~~:
    • Quote 1 – £1,500
    • Quote 2 – £78~
    • ~~3 ~~
    • ~~ ~~ – £2,500

    How many quotes are above the average price quoted?
    A. 1 quote
    B. 2 quotes
    C. 3 quotes
    D. 4 quotes

    (1 mark)

11. A DIY store sells
    the table below
    what is the pric

Paint
Economy
Standard
Quality
Premier

    A. £16.99
    B. £18.24
    C. £19.64
    D. £24.32

12. Desi's café sells
    priced at £1.50,
    average price o
    nearest whole p
    A. £1.50
    B. £1.88
    C. £2.00
    D. £2.28

13. Four customers
    records the amo
    over the averag

Customer 1
Customer 2
Customer 3
Customer 4

    A. £2.37
    B. £1.11
    C. £0.52
    D. £0.50

14. An alternative n
    A. Difference
    B. Mean
    C. Product
    D. Sum

15. The average pri
    £1.50. The shop
    the prices of thr
    and £1.55, how
    A. £1.35
    B. £1.43
    C. £1.52
    D. £1.60

SHORT-/LONG-RESPONSE QUESTIONS

16. Karen employs six hairdressers in her salon. What is the average weekly wag[...]
answer to the nearest whole penny (p).

Employee 1	£175
Employee 2	£229
Employee 3	£250
Employee 4	£190
Employee 5	£346
Employee 6	£296

17. Four customers visit a shop and th[...] [...] records the amount that they [...]
closest to the average sp[...] [...] [...] all workings.

Cus[...] 1	[...]
Cus[...] 2	£3.48
Custo[...]er 3	£2.80
Customer 4	£1.20

18. The average price of a digital camera sold by an e-commerce business is £1[...]
models. If the prices of four of the cameras are £100, £110, £130 and £150,[...]
Show all workings. Give your answer to the nearest whole pound.

19. A business obtains three quotes for insurance for its delivery van. The three q[...]
What is the average of the three quotes? Show all workings. Give your answ[...]

20. A business pays £1,200 rent per month over a six-month period. What is th[...]
the business over the period?

21. Karen lists her operating costs over a three-month period. The table below[...]
number of soaps made over a three-month period.

	Operating costs	Number of soaps made
April	£254	231
May	£250	268
June	£180	[...]

Calculate the average cost [...] [...] the three-month period. Show your[...]
decimal places.

22. A business has five branches. The table below shows the sales made by each sales level during the month of March.

Branch	March sales
Liverpool	£24,762
Brighton	£97,278
Bristol	£56,731
Taunton	£20,384
Wells	£8,492

23. Analyse two limitations of comparing each of the five branches' monthly sales for the whole business.

24. A business has four employees. The table below shows the sales made by the average for four employees is £510, calculate the value of sales ge

Employee	Monthly sales
Bobi	£450
Carol	£530
Stella	£510
Hebe	?

Selling price is the amount that a customer pays to receive a good or service.

Revenue is the total amount of money earned by a business from selling its good| sometimes called 'turnover', 'sales revenue' or 'sales'.

revenue = selling price per unit × quantity sold|

Cost is the amount paid by a business for the materials/services used in the provisi| manufacturing of its goods. Costs are sometimes referred to as 'expenses', 'operat|

Fixed costs are costs that do not change with the level of output. The business h| number of goods or services made or sold. These are als| wn as 'overheads'| business has to pay the same rent for its factory w|e| makes 10 bars of soa|

t| r| c| sts = all fixed costs added together|

Variable costs are cost| c| ge with the level of output. If output increases| increase, w| u| decreases the total variable costs will decrease. These a| e.g. a soap | s will need to buy more raw materials to make 100 bars of so| costs usually vary in direct proportion with changes in the level of output.

total variable costs = variable cost per unit × outp|

Total costs are all costs added together.

total costs = total fixed costs + total variable cos|

Profit/loss is the amount of money left from the revenue that a business earns f| services after all costs have been deducted. If the total revenue is greater than t| made a profit. However, if total revenue is lower than the total costs incurred, t|

profit = total revenue – total costs

Businesses report the profit/loss earned each year in the Income Statement (son| and Loss Account'). This account covers a specific trading period (typically one y| costs over that period of time.

Worked Example

Sally sells soaps at a market stall. She charges £4.50 per bar of soap. One week s| She pays the following costs:
- Stall rent – £80 per week
- Materials to make a bar of soap – £1.00 per bar of soap
- Packaging – £0.20 per bar of soap

Sally's selling price is £4.50.

The revenue earned during the week = £4.5| 3| | ar| of soap
= 1,5|

Sally's fixed costs are th| r| t| = £80 per week

Sally's varia| ts during the week = (£1.00 + £0.20) × 350 bars of soap
= £1.20 × 350 bars of soap
= £420

Sally's total costs during the week = fixed costs + variable costs
= £80 + £420
= £500

Sally's profit for the week = total revenue – total costs
= £1,575 – £500
= £1,075

MULTIPLE-CHOICE QUESTIONS

1. Which of these terms describes money coming into a business from products/services sold?
   A. Loss
   B. Revenue
   C. Fixed costs
   D. Profit

   (1 mark)

2. 'Fixed costs + Variable costs' is the calculation to work out:
   A. Cash flow
   B. Sales revenue
   C. Total costs
   D. Profit

   (1 mark)

3. How much revenue is made by a bakery shop if it sells 40 sausage rolls at a price of 95p each?
   A. £95
   B. £40
   C. £38
   D. £36

   (1 mark)

4. A business sells 15 packs of pens at £4.50 per pack. The business runs a sales promotion and reduces the price to £3.50 per pack. If the number of packs remains unchanged, what will happen to the business's revenue?
   A. It will reduce
   B. It will increase
   C. It will stay the same
   D. The business will break even

   (1 mark)

5. Identify a source of revenue.
   A. Sales of services to customers
   B. Rent paid for office premises
   C. Interest received from a bank
   D. Postage paid

   (_ mark)

6. How much revenue is made by a furniture shop that ... for £699 each?
   A. £
   B. £2,056
   C. £2,097
   D. £2,796

   (1 mark)

7. If revenue is £40 what will the bus
   A. Make a loss
   B. Make a prof
   C. Break even
   D. Go bankrupt

8. Which of the foll shown in *Figure*
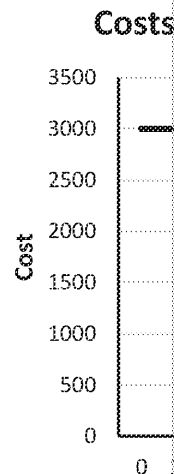
   Costs

   A. Fixed costs
   B. Sales price
   C. Variable cos
   D. Direct costs

9. Profit is:
   A. Notes and c
   B. Number of
   C. Costs of run minus reve
   D. Revenue m the busines

10. A garage charges cars are washed
    A. 9 cars
    B. 12 cars
    C. 15 cars
    D. 18 cars

11. What is the name given to a situation where total costs are greater than revenue?
    A. Loss
    B. Liquidity
    C. Break-even
    D. Profit

    (1 mark)

12. Sinbad sells hot dogs from a mobile stall. The costs for one hot dog are: sausage = 8p; onions = 3p; bread roll = 7p. Sinbad pays £2,500 rent for the pitch. If Sinbad sells 150 hot dogs at a fair, what are the total variable costs?
    A. £27
    B. £2,527
    C. £2,700
    D. £2

    (1 mark)

13. If revenue is £120,000 and total costs are £200,000, what will the business make?
    A. A loss
    B. A profit
    C. It will break even
    D. A charity donation

    (1 mark)

14. Which of these terms would be a source of revenue for a bakery shop?
    A. Selling cream cakes
    B. Selling an old oven
    C. Paying its electricity bill
    D. Recruiting a new baker

    (1 mark)

15. Sybil buys books at £8.00 each. How much **revenue** does she make if she sells 15 books at £14.99 each?
    A. £104.85
    B. £224.85
    C. £285.85
    D. £344.85

    (1 mark)

SHORT-/LONG-RESPONSE QUESTIONS

16. If a website generates revenue of £350 from selling 250 notebooks, how mu
    customers to buy on average? Show all workings. Give your answer to the

17. If TipToes shoe shop sells 15 pairs of sandals priced at £19.99, how much re
    workings. Give your answer to the nearest whole pence.

18. How much revenue is generated by a sandwich shop that sells the following
    - 100 sandwiches at £1.75 each
    - 85 bottles of water at 60p each
    - 45 fruit bags at £1.10 each

    Show all workings. Give your answer to the nearest whole pence.

19. If fixed [   ] re £10,000 and variable costs are 5p per unit, what is the tota
    units? Show all workings. Give your answer to the nearest whole pound.

20. A business makes a profit of £65,000. Its fixed costs are £12,000 and its var
    much revenue was generated? Show all workings. Give your answer to the

21. Chirpy birdseed bars cost 99p. A pet store decides to increase the price by 7
    all workings. Give your answer to the nearest pence (p).

22. A business makes a profit of £300,000 from £435,500 sales revenue. Calculate

23. A business plots its sales volumes for a product for the four months leading
    of the product is £4. Using the information in *Figure 5*, calculate the revenu
    month period. You are advised to show your workings.

Sales volume for September to Decem
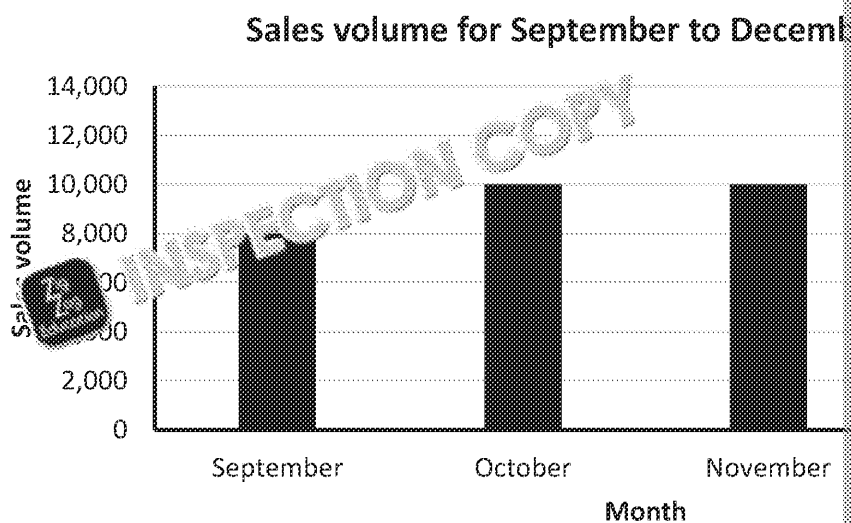
Figure 5

24. Jenny sells bunches of fresh flowers at her local market. Each bunch sells fo
    shows how many bunches of flowers that Jenny sells during a week. The m
    and is closed on a Sunday.

Day	Number of bunches of flowers sold
Monday	25
Tuesday	30
Wednesday	45
Thursday	20
Friday	40
Saturday	38

Calculate Jenny's total revenue for the w   Show all workings. Give your ans

25. Amy o   o   shop. On average she sells 1,367 coffees per month. She
    of £2.8   up. Calculate Amy's monthly total revenue. Show all workings
    nearest whole pound (£).

26. A nursery has fixed costs of £18,000 per year. Variable costs per child per se
    charges £3.00 per child per session. 1,000 sessions are held at the nursery i

    State the formula for calculating the profit made. Calculate the profit made
    of October. Show your workings and answer to two decimal places.

27. J's Irresistible Cakes has fixed costs of £8,000 per year. Variable costs per ce
    currently charges £25 per celebration cake and sells an average of 40 cakes

    Show the formula to calculate the profit made, and calculate the profit that
    month. Show your workings and answer to two decimal places.

28. Kai runs a garage which sells used cars and fuel.

    Analyse the impact on the revenue generated by Kai's garage if he increase

Section 4 – Break-even

The point at which a business's total costs of production are equal to its total rev[enue] point / break-even level of output. The break-even point is very important becau[se] business will make neither a profit nor a loss.

The 'selling price per unit – variable cost per unit' is also known as the contributi[on]

$$\text{Contribution} = \text{Selling price per unit} - \text{Variable cost p[er unit]}$$

Contribution refers to the contribution towards paying off all of the fixed costs. [The amount that] exceeds the variable cost per unit can be used to pay [off] the fixed costs. Th[e] the fixed costs are fully covered by the contribution [and] contribution after the br[eak-even point] represents profit for the business as [all co]st[s] (variable and fixed) are covered.

Break-even data is of[ten plott]ed onto a break-even chart (also commonly referred t[o] break-even [point is] sh[o]wn on the graph/chart at the point where the 'Total costs' li[ne]
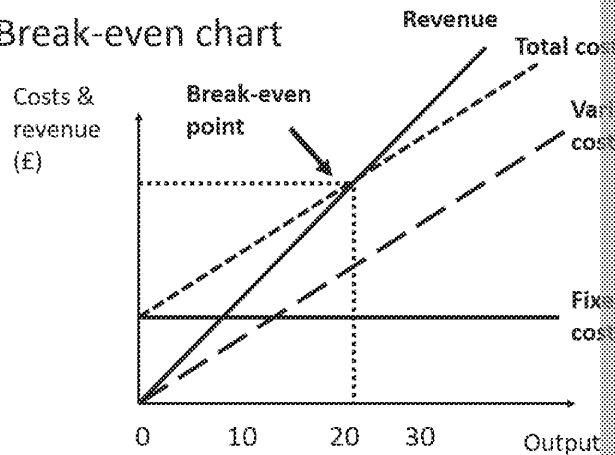
The margin of safety is the number of units between the break-even level of out[put] sales/production. It expresses the amount of profit or loss in terms of units. In t[his] business's current level of output is 30 units and the break-even point is 20 units[,] margin of safety of 10 units.

$$\text{Margin of safety} = \text{Current level of output} - \text{Break-even lev[el]}$$
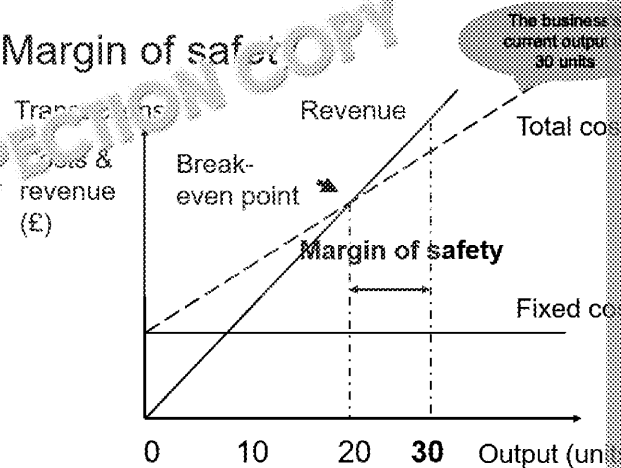
Break-even charts are often required by a lender (such as a bank or a grant prov[...] funds to a business. The bank manager / grant provider can see the margin of sa[...] beyond the break-even point that the business aims to sell. This gives the bank [...] of how 'safe' the business's profitability is. The larger the margin of safety, gene[...] business will not make a profit. This is because there is a greater buffer/shield b[...] the current level of output.

Break-even charts are also a useful tool for managers to use to support decision-[...] show the business's managers how many units need to be sold to make a profit. [...] to make decisions about varying pricing levels and/or costs.

Worked Example

Desiree runs a small business that makes sc[...]ed [...]. The average price of [...]

To break even, Desiree ther[...] [...]s to sell 1,357 candles per month (correct[...]

Desiree ma[...] s[...]s 2,000 candles during November.

Margin of safety	= Current level of output − Break-even level of output
Margin of safety	= 2,000 − 1,357
Margin of safety	= 643 candles

MULTIPLE-CHOICE QUESTIONS

1. What term is given when the business's costs are equal to its revenue?
   A. Profit
   B. Loss
   C. Break-even
   D. Turnover

   (1 mark)

2. Break-even is the point where the following two lines cross:
   A. Fixed costs and variable costs
   B. Fixed costs and revenue
   C. Total cost and fixed costs
   D. Total cost and revenue

   (1 mark)

3. Which type of costs do not change as the level of output changes
   A. Fixed costs
   B. Variable costs
   C. Revenue
   D. Turnover

   (1 mark)

4. The margin of safety is:
   A. Actual output + Break-even output
   B. Actual output – Break-even output
   C. Fixed cost + Variable costs
   D. Fixed cost – Variable costs

   (1 mark)

5. A business sells and produces one product. If the variable cost per unit is £15 when the business makes 60 units, calculate the variable cost per unit if 95 units are produced.
   A. £15
   B. £18.75
   C. £20.75
   D. £23.75

   (1 mark)

6. Jackie makes a loss during the month of November. Which of the following statements is true?
   A. Sales are greater than the break-even point
   B. Sales are less than the break-even point
   C. Sales are equal to the break-even point
   D. Sales are equal to the total costs

   (1 mark)

7. Which of the fo[llowing]... categorised as f[...]
   A. Profit
   B. Total cost
   C. Fixed cost
   D. Variable co[st]

8. Which of the fo[llowing]... 'Total costs'?
   A. Fixed costs
   B. Sales reven[ue]
   C. Fixed costs
   D. Fixed costs

9. Which of the fo[llowing]... cost for a shoe [...]
   A. Packaging [...]
   B. Raw mater[ial]
   C. Insurance
   D. Production[...]

10. Which of the fo[llowing]... variable cost fo[r]
    A. Stationery
    B. Teachers' s[...]
    C. Rent
    D. Insurance

11. Which of the fo[llowing]... a break-even ch[art]
    A. Fixed costs
    B. Revenue
    C. Total costs
    D. Variable co[st]

12. What usually ha[ppens]... output if the sel[...] by £1 (if all othe[r]...
    A. Break-ever[...]
    B. Break-ever[...] remain un[...]
    C. Break-ever[...]
    D. Break-ever[...]

13. Which of the following is the calculation to find 'Contribution'?
    A. Selling price – Variable costs
    B. Actual output – Break-even output
    C. Fixed costs + Sales revenue
    D. Fixed costs – Sales revenue

    (1 mark)

14. Which of the following points is true?
    A. A bank manager will not usually ask to see break-even data
    B. Break-even forecasts are only an estimate
    C. Fixed costs rise as the business increases output
    D. Break-even forecasts are guaranteed to be accurate

    (1 mark)

15. 6 braddies are produced each month by a business. What is the name given to Area 1 on *Figure 6*, the break-even chart below?

Break-Even Chart for Braddies
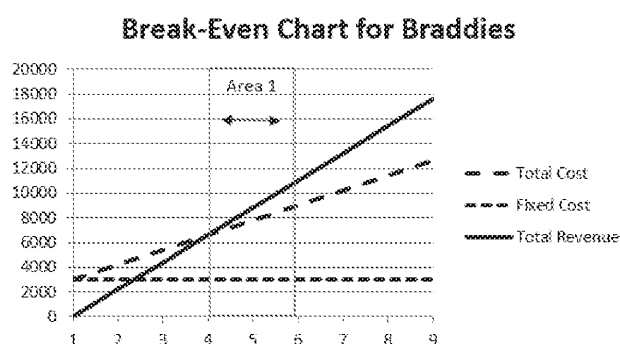
Figure 6

    A. Margin of safety
    B. Contribution
    C. Break-even
    D. Loss

    (1 mark)

SHORT-/LONG-RESPONSE QUESTIONS

16. Which type of costs change as the level of output changes?

17. Shati makes designer cushions. She has calculated that her break-even out November she sells 180 cushions. Calculate the margin of safety.

18. Rhiannon's business makes fresh fruit bags for children's meals sold by a lea sell 60 fruit bags to cover all of her costs, and her margin of safety is 250 ba bags sold.

19. Brenda's production is 1,??? uni and she knows that she needs to produce What is Brenda's margin of safety? Show all workings. Give your answer to

20. Brais runs a driving school business. Give an example of one variable cost.

21. Falcon runs an estate agency. His margin of safety is 50 houses for the year 340 house sales.
    a. Calculate how many houses Falcon sold in 2020.
    b. Due to the successful year, Falcon's target for sales has increased by 5% Calculate how many houses Falcon needs to sell in 2021 to reach that t

22. Identify the labels for Lines A, B and C on *Figure 7*, the break-even chart bel

Break-even Chart for Braddi

Figure 7

23. A business sells 35 products over its break-even point during the month of J point if 60 products are sold during July.

24. Calculate the amount of profit that the business made during the year if each variable cost of making each unit is £10.

25. Tarquin has been asked to carry out a break-even analysis by his bank mana[...] support his new business loan.

    Analyse one reason why the bank manager has asked to see a break-even a[...] business plan.

26. Analyse two advantages to Tarquin of calculating the break-even level of ou[...]

27. Tarquin's friend Maya tells h[...] break-even analysis is only of limited va[...]

    Analyse [...]lin[...] of Tarquin carrying out a break-even analysis.

Section 5 – Gross profit margin and net prof

The success of a business can be measured in many ways including customer sat
brand awareness, employee retention, etc. A common way to measure success
profitability. A business will often set objectives regarding profitability.

Profits – the amount of money left from revenue once all costs have been deduc

Gross profit – gross profit is revenue less cost of sales. The costs associated with
the service, such as raw materials and machinery running costs, have been dedu
overheads (i.e. operating expenses) have not been deducted.

$$gross\ prof. = revenue - cost\ of\ sales$$

Net profit – the net profit is left after all expenses (sometimes known
deducted from reve gross profit less overheads, i.e. those costs that are
production s provision of a service, e.g. rent, gas, electricity and market
profit achie rall from the trading activities of the business.

$$net\ profit = gross\ profit - operating\ costs$$

Profitability – the ability of a business to generate profits above its costs. It is us
revenue (gross profit margin or net profit margin).

Gross profit margin – the percentage of revenue which is gross profit. For the yea
gross profit margin was 40.1%, which means that for every £1 of revenue earned,
year ending March 2019 it was 35.1%; therefore, for every £1 of revenue earned,

If the gross profit margin is higher than that of a similar rival business for a specific
the business is more efficient at managing its costs of sales, as a greater proportion
revenue. As ABC plc's gross profit margin improved by £0.05 between 2020 and 2
business was more efficient at managing its costs of sales.

$$\frac{gross\ profit}{revenue} \times 100 = \%$$

Net profit margin – the percentage of revenue which is net profit. For the year
2020, ABC plc's net profit margin was 17.4%, which means that for every £1 of re
profit. For the year ending March 2019, it was 11.7%; therefore, for every £1 of
net profit.

If the net profit margin is higher than that of a similar business for a specific p
business is more efficient at managing it o eads, as a greater proportion of
revenue. As ABC plc's net p margin improved by £0.05 between 2019 and 2
business was more effic t managing its overheads.

$$\frac{net\ profit}{revenue} \times 100 = \%$$

Analysing the profitability of a business is of **value** because:
* it allows a business to understand how it has performed;
* identifies areas that require improvement; and
* directors can be assured about whether to allocate a dividend to shareholde
new strategy.

However, the **drawback** is that the process is based on historical data and there ┊ reflect the future. The business may analyse its profitability, but in future years ┊ competitiveness of the market or economic conditions change. Decisions based ┊ take a while to implement and by the time they are introduced the market may ┊ could mean that the business misses out on new opportunities or does not have ┊ and implemented to deal with increasing competitiveness, because it is too focu┊

There are several ways of improving the profits or profitability of a business:

* **Lower costs** – this can be achieved by reducing waste, finding a cheaper sup┊ profit margins to improve, assuming prices remain the same. However, if a┊ the required quality materials or is unreliable at meeting deadlines, the rep┊ suffer, resulting in the loss of customers. Sometimes cheaper raw materials┊ standards as higher-priced alternatives, so there is risk that the quality of┊ adversely affected.
* **Increase prices** – a higher price increase profit margins, but this may be┊ a strong loyalty towards the product and are likely to purchase from a rival┊
* **Increase sales/** if the business sells more products its fixed costs w┊ units, resulting in lower unit costs and higher profit margins. However, staf┊ pressure to increase output or sales, possibly leading to mistakes occurring,┊

Worked Example

Zena runs a pet shop. Here is an extract from her accounts for the past year.

	£
Sales revenue	40,000
Cost of sales	18,500
Gross profit	21,500
Rent	10,000
Staff wages	8,000
Net profit	3,500

The calculation to find the gross profit margin is as follows:

$$\frac{gross\ profit}{revenue} \times 100 = \%$$

$$\frac{£21,500}{£40,000} \times 100 = 53.75\%$$

The calculation to find the net profit margin is as follows:

$$\frac{net\ profit}{revenue} \times 100 = \%$$

$$\frac{£3,500}{£40,000} \times 100 = 8.75\%$$

Multiple-choice questions

1. The rent paid by a business for its premises increases by £200 per year. What will be the likely impact on the business's profits if all other costs and revenue remain unchanged?
   A. Increase
   B. Decrease
   C. Stay the same
   D. Break-even

   (1 mark)

2. A florist sells 38 bunches of daffodils at £1.5⁵ each. How much sales revenue is earned?
   A. £50.00
   B. £54.20
   C. £57.00
   D.

   (1 mark)

3. A shop sells £65 of greeting cards in a week. The cost of making the greeting cards is £35. Which of the following is the gross profit?
   A. -£30
   B. £3
   C. £30
   D. £35

   (1 mark)

4. Cyril sells £52,400 of products and makes £12,500 net profit. His gross profit is £27,000. Which of the following is the net profit margin?
   A. 23.1%
   B. 23.9%
   C. 51.5%
   D. 51.9%

   (1 mark)

5. Four businesses compare their gross profit margins. Which business is the most profitable?
   A. Business 1 – 1%
   B. Business 1 – 10%
   C. Business 1 – 25%
   D. Business 1 – 50%

   (1 mark)

6. A business calculates its gross profit margin is 25%. Which of the following statements is true?
   A. All sales revenue is used to pay the cost of sales
   B. 75% of all sales revenue is used to pay the cost of sales
   C. 75% of all sales revenue is used to pay the operating expenses
   D. The business breaks even

   (1 mark)

7. Here is an extra Account (Incom spend on cost o

Sales revenu	
Cost of sales	
Gross profit	
Wages	
Insurance	
Net profit	

   A. £6,000
   B. £6,500
   C. £57,000
   D. £57,500

8. Calculating the owner of a busi
   A. Understand affects reve
   B. Understand the gross pr
   C. Understand revenue an
   D. Understand output chan

9. Which of the fol used to find the
   A. Sales reven
   B. Sales reven
   C. Cost of sale
   D. Cost of sale

10. A business make 2017 and its net the following is the period (to th
   A. £1,998
   B. £19,980
   C. £37,000
   D. £1,998,000

11. Heather finds that her net profit margin increases from 45% to 52% over a two-year period. The gross profit margin for the same period remained unchanged at 60%. Which statement is a true description of what may have caused this change?

A. Heather's operating expenses have fallen
B. Heather's cost of sales has fallen
C. Heather's operating expenses have increased
D. Heather's cost of sales has increased

(1 mark)

12. Zippo's business achieves a gross profit margin of 76%. Which of the following is true for Zippo's business?

A. The business makes £76 net profit for every £1 of sales
B. The business makes 76p net profit for every £1 of sales
C. The business makes £76 gross profit for every £1 of sales
D. The business makes 76p gross profit for every £1 of sales

(1 mark)

13. Which of the following calculations should be used to find the net profit made by a business?

A. Gross profit – cost of sales
B. Gross profit – operating expenses
C. Cost of sales × gross profit
D. Operating expenses – sales revenue

(1 mark)

14. Tracey runs a business and her gross profit margin reduces from 46% to 23%. Which statement is a true description of what may have caused this change?

A. Tracey's operating expenses have fallen
B. Tracey's cost of sales has fallen
C. Tracey's operating expenses have increased
D. Tracey's cost of sales has increased

(1 mark)

15. A supplier incre
materials by 20

A. Sales reven
B. Operating e
C. The cost of
D. The cost of

16. Raymond repairs motorcycles. One week he makes £458 in sales revenue a[...] is his net profit? Show all workings.

17. A business made £8,000 net profit and sold £100,000 worth of goods last ye[...] margin. Show all workings.

18. A business makes a gross profit of £32,000 in 2017 and its gross profit marg[...] sales revenue for the period (to the nearest whole pound)? Show all workin[...]

19. Wrenna's business sells £27,000 of [...] and makes £15,500 gross profit [...] margin. Show the calculatio[...] use and all workings. Give your answ[...]

20. Here is [...]ract from Jill's Profit and Loss Account (Income Statement).

	£
Sales revenue	11,000
Cost of sales	6,000
Gross profit	
Heating and lighting	3,000
Postage	
Net profit	1,700

i) How much is her Gross Profit?
ii) How much did she pay for postage?

Show all workings.

21. Calculate the gross profit and net profit figures in each of the following tabl[...]

	£
Sales revenue	12,000
Cost of sales	8,000
Gross profit	
Electricity	1,000
Advertising	500
Salaries	2,000
Transport	2,850
Telephone	400
Net profit	

Table 1

Sales revenue	
Cost of sales	
Gross profit	
Heating and lighting	
Rates	
Maintenance	
Packaging	
Wages and salaries	
Net profit	

Table 2

	£
S[...]venue	70,000
Cost of sales	45,000
Gross profit	
Gas	3,000
Electricity	2,500
Water	1,000
Insurance	12,000
Vehicle repairs	5,000
Net profit	

Table 3

Sales revenue	
Cost of sales	
Gross profit	
Carriage	
Wages and salaries	
Telephone	
Advertising	
Energy	
Net profit	

Table 4

22. Charlie's brother has predicted financial data for the first two years of tradin
he has prepared.

	Year 1
Sales Revenue	£55,000
Gross Profit Margin	35%

Calculate the difference in the predicted gross profit over the two-year peri
the gross profit margin formula used and show all workings.

23. The following information was taken from Checka's income statement for th

		Year 2
Sales revenue	£51,000	£50,000
Cost of sales	£6,000	£8,000
Gross profit	£25,000	£42,000
Operating expenses	i)	ii)
Net profit	£16,700	£24,000

a) Calculate the company's operating expenses for the two years that wou

b) Calculate the company's gross profit margin for each of the two years.

c) Analyse the impact of the change in the gross profit margin over the tw

24. A fitted-kitchen showroom sells a kitchen for £1,450. The business operate
30%. Calculate the cost of goods sold for the fitted kitchen. Show all worki

25. A business made £55,000 gross profit and sold £200,000 worth of goods las
margin. Show all workings. Give your answer to the nearest whole percent

26. The following information was taken from a company's income statement f

Sales revenue	£320,000
Gross profit	£205,000
Net profit	£165,000

Calculate the company's gross profit margin and net profit margin for the pa

SECTION 6 – AVERAGE RATE OF RETURN

Business owners and managers often need to make decisions regarding investm
decisions about machinery/equipment to purchase or whether to expand into a
calculating the average percentage annual profit that an investment will generat
predicted life of the investment.

The 'rate of return' considers the amount of profit that a business will receive w

Often a business will have to choose between a couple of different investment o
should choose the investment with the highest ARR because it will have the mos

The calculation to find the ARR is as follows:

$$\text{R} = \frac{average\ annual\ profit}{Cost\ of\ investment} \ x\ 100$$

Sometimes average annual profit is not provided and needs to be calculated
way as any other average:

$$Average\ annual\ profit\ = \frac{Add\ up\ the\ total\ of\ all\ of}{Number\ of\ year}$$

The 'cost of the investment' is sometimes termed 'initial outlay', which refers to

The answer for the ARR is always expressed as a percentage.

There are some exceptions to the rule that the investment with the highest ARR s
* When the investment with the highest ARR does not support the business's
* When the business will accept a less profitable investment to launch into a
  product range, etc.
* When the risk involved with the investment is too high

Some businesses will set what is known as a target or hurdle rate. If the ARR is u
investment will be declined. The target or hurdle rate is the minimum ARR that t

Worked Example

Cray runs a packaging company that produces packaging for the food industry. H[…]
a new machine that will enable him to expand into a range of biodegradable pac[…]
two different machines that would be suitable for his business. The cost of purc[…]
profits that he predicts that he will earn from the machines are shown in the tab[…]

	Machine 1	
Initial cost of the machine	£80,000	
Year 1 net profit	£15,000	
Year 2 net profit	£24,000	
Year 3 net profit	£	
Year 4 net profit	£ ,000	

The initial step is to find the [average] annual return/profit for each of the machin[…]

$$\text{Average annual profit for Machine 1} = \frac{£15,000 + £24,000 + …}{4 \text{ ye…}}$$

$$\text{Average annual profit for Machine 1} = \frac{£97,…}{4 \text{ ye…}}$$

$$\text{Average annual profit for Machine 1} = £24,…$$

$$\text{Average annual profit for Machine 2} = \frac{£20,000 + £26,000 + …}{4 \text{ ye…}}$$

$$\text{Average annual profit for Machine 2} = \frac{£114…}{4 \text{ ye…}}$$

$$\text{Average annual profit for Machine 2} = £28,…$$

	Machine 1	
Initial cost of the machine	£80,000	
Average annual profit	£24,250	
ARR calculation	$\dfrac{£24,250 \times 100}{£80,000}$	
ARR	30.3% (to one decimal place)	
Should this machine be chosen?	Yes – it has the higher ARR	

1. Which of the following is the best average rate of return (ARR)?
   A. -46%
   B. 7%
   C. 12%
   D. 14%

   (1 mark)

2. Which of the following statements is true?
   A. ARR results help a business to compare the profitability of diverse investments
   B. ARR results help a business to compare the cash flow of diverse investments
   C. ARR results are based on profits over the first year
   D. ARR results do not consider the initial cost of the investment

   (1 mark)

3. What is the ARR for a milling machine over its three-year life, correct to two decimal places?

Initial cost of the machine	£200,000
Year 1 net profit	£50,000
Year 2 net profit	£64,000
Year 3 net profit	£62,000

   A. 29.33%
   B. 25%
   C. 32%
   D. 31%

   (1 mark)

4. Which of the following statements is false?
   A. A manager should always choose the lowest ARR
   B. The ARR considers the return during all of the years of an investment
   C. The ARR can help a business compare the profitability of diverse investments
   D. A manager should usually choose the highest ARR

   (1 mark)

5. What is the average net profit for the Marvel Mill over its four-year life?

Year 1 net profit	£25,000
Year 2 net profit	£44,000
Year 3 net profit	£40,000
Year 4 net profit	£38,500

   A. £36,750
   B. £36,875
   C. £38,000
   D. £53,400

   (1 mark)

6. A delivery van c... Parcels Ltd pred... return of £8,50... year life. What...
   A. 35.5%
   B. 37.5%
   C. 55%
   D. 142%

7. Chesney is maki... has worked out... machines that h... business. Which...
   - Machine A
   - Machine B
   - Machine C
   - Machine D

   A. Machine A
   B. Machine B
   C. Machine C
   D. Machine D

8. Which of the fo... the result of an...
   A. Percentage
   B. Decimal
   C. Currency, e...
   D. Times

9. Derek buys a ne... kitchen. The av... by the oven is e... over a 10-year p... much did Derek...
   A. £1,280
   B. £2,580
   C. £5,000
   D. £12,800

10. Stacey's busines... profit of £3,000... £2,000 in Year 3... costs £8,000. W...
    A. £500
    B. £3,167
    C. £4,670
    D. £5,833

11. What is the average return for a delivery van over its three-year life?

Initial cost of the machine	£20,000
Year 1 net profit	£5,000
Year 2 net profit	£14,000
Year 3 net profit	£12,000

   A.   £7,000
   B.   £7,750
   C.   £10,333
   D.   £12,750

(1 mark)

12. An investment has an average annual profit of -£3,000 over the first five years of installation. Which of the following statements is true?
   A.   The investment makes a loss during its first five years
   B.   The investment makes a profit during its first five years
   C.   The investment will boost the business's profitability
   D.   The investment will break even in the first five years

(1 mark)

13. Which of the following is the worst average rate of return?
   A.   -46%
   B.   7%
   C.   12%
   D.   14%

(1 mark)

14. What is the average return for a new crane over its three-year life that Roberts Construction are planning to purchase? Express the answer correct to the nearest whole pound.

Initial cost of the crane	£1,450,000
Year 1 net profit	£255,000
Year 2 net profit	£ 00
Year 3 net profit	£ 7,000

   A.   £   50
   B.   £   7
   C.   £359,398
   D.   £363,129

(1 mark)

15. Malcolm is com
Investment A ha
Investment B ha
investment shou
   A.   Investmen
   B.   Investmen
   C.   Neither – i
        and earn 3
   D.   Neither

SHORT-/LONG-RESPONSE QUESTIONS

16. What is the formula to find the average rate of return?

17. Tata has purchased a machine for her garage business. The average annual estimated to be £4,300 per year over a four-year period. The ARR is 21.5%. machine? Show all workings. Give your answer to the nearest whole pound

18. Bubbly Soft Drinks are thinking of expanding its factory to Madrid. After car the Marketing Director has presented the following figures for the move. W years? Show all workings.

Initial cost of the new factory	£2,000,000
Year 1 net profit	-£32,000
Year 2 net profit	-£5,000
Year 3 net profit	£42,000
Year 4 net profit	£57,000
Year 5 net profit	£98,000

19. Stanley is considering an investment for his company. The investment will c calculated that the ARR will be 15.8%. What is the average annual profit ov workings. Give your answer to the nearest whole pound.

20. A bus company invests in a new bus which generates an annual profit of £6,0 and £11,000 in Year 3. The bus cost £120,000 to purchase. If the bus compa least 10% on all buses, is the bus a worthwhile investment? Show all workin

21. Rhiannon is comparing three investments. Which machine should she choo below? Show all workings.

	Machine A	Machine B	Machine C
Initial cost of the machine	£40,000	£75,000	£20,000
Year 1 net profit	£3,000	£12,000	£1,000
Year 2 net profit	£7,000	£3,000	£4,000
Year 3 net profit	£15,000	£34,000	£5,500

22. A chocolate factory is considering buying a new machine. Explain how ARR decision-making process when managers try to decide which brand of mach

23. The oven that Sidney would like to purchase is expected to last six years. It to generate a profit of £450 per year.

    Calculate the average rate of return. State the formula used and show all w decimal places.

24. Calculate the average rate of return over four years from the following figur[...]

Cost of investment	£40,000
Profit year 1	£9,500
Profit year 2	£11,250
Profit year 3	£12,000
Profit year 4	£10,500

25. Katrina owns a business that manufactures garden furniture. She is thinking
    benches and to do this will need to buy a new machine. She has found two
    to decide which one to purchase. The following table shows the cost of pur
    profit/return that she predicts each year. Both machines have a working life

	Machine A	Machine B
Cost of purchase	£50,000	£55,000
Year 1 – Profit	£10,000	£5,000
Year 2 – Profit	£20,000	£10,000
Year 3 – Profit	£25,000	£25,000
Year 4 – Profit	£20,000	£30,000
Year 5 – Profit	£15,000	£25,000

Calculate the average rate of return. State the formula used and show all wo
decimal places.

26. With reference to the average rate of return calculations, recommend which
    should purchase.

27. Explain one limitation of using the average rate of return to make an investm

SECTION 7 – CASH FLOW FORECAST

A **cash flow forecast** predicts the amount of cash to come into and go out of the

It indicates when cash shortages may occur, alerting the business to take action to
cash flow problems could be resolved with an overdraft or negotiating with supplie
may ask debtors to pay within a shorter period, or unwanted assets may be sold to

Long-term cash flow problems may require a loan or new owners joining the bus

The key elements are:
- **Cash inflow** – money coming into the business, usually from sales.
- **Cash outflow** – money going out of the busin·ss usually to pay bills.
- **Net cash flow** – difference between cash inflow and cash outflows.
- **Opening balance** – the amount of cash anticipated at the start of a period; the cl
- **Closing balance** – the amount of cash anticipated at the end of a period. A
  indicates a business will not have sufficient cash to meet expected payment
  flow indicates there will be enough.

	Sept (£)	Oct (£)	Nov (£)	Dec (£)
Cash inflow				
Cash sales from customers	6,500	3,000	6,000	5,500
Total inflow	**6,500**	**3,000**	**6,000**	**5,500**
Cash outflow				
Rent	800	800	800	800
Postage	150	80	145	140
Staff wages	3,000	2,000	3,500	3,000
Materials	600	300	550	550
Other costs	200	50	300	300
Total outflow	**4,750**	**3,230**	**5,295**	**4,790**
Net cash flow	**1,750**	**-230**	**705**	**710**
Opening balance	425	2,175	1,945	2,650
Closing balance	2,175	1,945	2,650	3,360

Are **cash** and **profit** the same? It is often presumed that a profitable business wi
always the case. Many businesses offer trade credit to their customers to gener
receive the product or service immediately but have up to 90 days to pay the am
business has made a profit from this form of trade; however, it is not reflected i
customer settles their debt.

Cash is important in the **short term** to pay bills/liabilities es they fall due, as this
to continue trading. For this reason, cash can considered to be the lifeblood
essential, at least in the **long term** without this the business cannot grow, as
product development, expand to new markets, etc.

A business experience **cash flow problems** for the following reasons:
- Because holding too much stock; its money is tied up in products. If the
  perishes, the cash invested in it will not be recovered, as it cannot be sold.
- Trade debtors take longer to pay than they should, thereby reducing the cas
  difficult for the business to pay the expected cash outflows.
- If the business is overtrading (growing too fast) it will have a high rate of ca
  equipment, stock, hiring new staff, etc. However, the cash invested in this
  straight away as the cash inflows from such activities are not generated imm
- Unexpected changes in demand could result in fewer products sold and cas

The **benefits** of a cash flow forecast:

- The timing of cash in and out of the business is identified, thus allowing rem[...] before a negative (deficit) occurs, such as arranging an overdraft.
- Periods when positive cash should be available are recognised, which allow[...] resources will be available for new business strategies.
- Tt allows the business to identify ways to make any anticipated positive fun[...] business, such as opening an interest-bearing account in preparation to dep[...] they become available, rather than leaving them in a non-interest-bearing a[...]
- It allows the business to plan ahead, as it will know when cash will be availa[...]
- Potential lenders are more inclined to lend if they believe the business has [...] means to repay any loan provided.

The **drawbacks** of a cash flow forecast:

- It is based on estimates; therefore, [...] as good as the estimates used.
- The production of a cash f[...] can be complex and time-consuming[...] more likely to have [...] [...]ces to invest in this process.
- It can[...] [...] unexpected changes in market conditions.

Worked Example

Phillipo runs a mobile disco business in his spare time. He calculates his predicte[...] below. At the start of April his opening balance is £3,489. He produces a cash fl[...] closing balance for the start of May. All customers pay in cash at the end of each[...] Primary School, which are paid for 30 days after each disco takes place.

Phillipo's cash inflows and outflows for the month of April:

	£
Cash sales from discos	800
Credit sales from discos	250
Petrol	100
Repair to speaker	75
Light bulb replacement	40

Here is Phillipo's cash flow forecast for April:

	April (£)
Cash inflows	
Cash sales from discos	800
Credit sales from discos	0
Total cash inflows	800
Cash outflows	
Petrol	100
Repair to speaker	75
Light bulb re[...]er	40
Total cash [...]	215

Opening balance	3,489
Net cash flow	585
Closing balance	4,074

The cash from the credit sal[...] the disco. Therefore, the [...]

Add up all cash inflows to f[...]

[...] all cash outflows t[...] 100

The opening balance is th[...] earlier, i.e. clos[...]

Net cash flow = Total cas[...] i.e.[...]

The closing balance for Ap[...]

Multiple-choice questions

1. Into which section of a cash flow forecast should 'rent received' go?
   A. Cash inflow
   B. Cash outflow
   C. Opening balance
   D. Net cash flow

   (1 mark)

2. During the month of May, Topsy's business benefits from a cash inflow of £3,645 and has a cash outflow of £1,743. What is the net cash flow?
   A. -£1,902
   B. -£5,388
   C. £1,902
   D.

   (1 mark)

3. Into which document might a cash flow forecast be commonly found?
   A. Memorandum of Association
   B. Business plan
   C. Tax return
   D. Break-even chart

   (1 mark)

4. A cash flow shortage in a business may be solved by which of these?
   A. Arranging an overdraft
   B. Arranging a mortgage
   C. Increasing the credit offered to customers
   D. A salary increase for staff

   (1 mark)

5. Which of the following may threaten the survival of a business?
   A. Increase in profits made
   B. If cash inflows exceed cash outflows
   C. Reduction in profits made
   D. Poor cash flow management

   (1 mark)

6. Into which section of a cash flow forecast should 'wages and salaries' go?
   A. Cash inflow
   B. Cash outflow
   C. Opening balance
   D. Net cash flow

   (1 mark)

7. A cash flow shortage worse by taking of action?
   A. Paying sup
   B. Paying sup
   C. Not paying
   D. Obtaining a

8. Which of the fo cash inflow min
   A. Cash inflow
   B. Cash outflo
   C. Opening ba
   D. Net cash flo

9. What is the nam business allows products/servic pay for them 30
   A. Trade cred
   B. Debt factor
   C. Overdraft
   D. Liquidity

10. Into which secti should 'overhea
    A. Cash inflow
    B. Cash outflo
    C. Opening ba
    D. Net cash flo

11. Which of the fo inflow for a mob
    A. Cash from
    B. Bank loan
    C. Owner's ca
    D. Rent for sh

12. Which of the fo situation where enough cash to
    A. Insolvency
    B. Liquidity
    C. Trade cred
    D. Overdrawn

13. Into which section of a cash flow forecast should the 'closing balance from the previous month' go?
    A. Cash inflow
    B. Cash outflow
    C. Opening balance
    D. Closing balance

    (1 mark)

14. Which of the following is the best description of an overdraft?
    A. Where a bank allows a business to withdraw more funds than it has
    B. Where a bank allows a business to withdraw less funds than it has
    C. Where a bank gives a business funds with no fee or interest
    D. A finance source that does not need to be paid before use

    (1 mark)

15. An alternative term for a negative net cash flow is which of the following?
    A. Cash inflow
    B. Cash outflow
    C. Cash surplus
    D. Cash deficit

    (1 mark)

Short-/Long-response questions

16. Jacinta has produced a cash flow forecast for her new business. What is he[r]
    Show all workings.

    Month 1

	£
Cash inflow	5,000
Cash outflow	3,750
Opening balance	8,000
Closing balance	?

17. Jay produces a cash flow forecast for hi[s] [bus]ness. [I]f the closing balance on
    the opening balance for the 1st [?]

18. Yvonn[e] [p]ro[du]c[e]d a cash flow forecast for her business. The following s[?]
    – what [is the] missing figure for gas (marked X)? Show all workings.

    Month 1

	£
Cash inflow	23,000
Cash outflow	
Electricity	5,000
Gas	X
Opening balance	30,000
Closing balance	44,000

19. Into which section of the cash flow forecast for August should the 'closing b[?]

20. Jacinta has produced a cash flow forecast for her new business. An extract [?]
    Explain two actions that Jacinta could take to make her closing balance posi[tive?]

    Month 4

	£
Cash inflow	5,000
Cash outflow	9,750
Opening balance	2,000
Closing balance	(2,750)

21. Comfluxy Ltd's finance director h[as] [pr]o[duc]ed a cash flow forecast as part o[f]
    application for a long-term [b]ank [loan.] An extract is shown below.

	January £000	February £000	Marc[h] £000
Cash inflow	A	80	C
Cash outflow	70	B	62
Net cash flow			
Balance brought forward	(11)	(21)	(16)
Balance carried forward	(21)	(16)	(18)

    Calculate the missing figures for A, B, C and D. State the formula used to ca[lculate 'balance carried]
    forward' and show all workings.

22. Budget Gifts' finance manager has produced a cash flow forecast to show th

	January £000	February £000
Total income	20	32
Total expenses	32	B
Balance brought forward	(60)	
Balance carried forward	A	(80)

	January £000	February £000
Total income	20	32
Total expenses	32	40
Balance brought forward	(60)	(72)
Balance carried forward	(72)	(80)

Calculate missing figures for A, B, C and D. State the formula used to ca forward and show all workings.

23. The finance manager is considering different solutions to solve the cash flow
    * Taking out a bank overdraft
    * Reducing the amount of time customers have to pay off their trade cre

    Recommend which is the better option for the finance manager to choose.

24. Neil's bank manager has asked him to include a cash flow forecast as part of new business loan.

    Analyse two reasons why the bank manager has asked to see a cash flow fo

25. Analyse two reasons why cash flow forecasting is useful to Neil when opera

26. Neil has read an article online that suggests that producing a cash flow fore

    Analyse one limitation of the results shown by a cash flow forecast.

27. Rebecca runs a small café in a touris   She suffers a negative cash flow and March. She is considering the following two options to solve the cash f
    * Increase the time taken from suppliers to allow her to pay for te d   ra   an the current 30 days from delivery
    * An   an overdraft for the three-month period

    Recommend which is the better option for Rebecca to take. Give reasons fo

28. Jonathan McGovern runs a garage that provides a repair service and sells a [cut off]
    Provide the missing figures for the following cash flow forecast for McGove[cut off]

McGovern's Garage – Cash Flow Forecast

	May	
Cash inflows		
Repair sales	£9,000	
Car sales	£2,000	
Total cash inflows	£11,000	
Cash outflows		
Materials	£2,250	
Car purchases	[illegible]	
Rent	[illegible],000	
Wages	£2,500	
Electricity	£150	
Advertising	£500	
Othe[illegible]se	£500	
Total [illegible]tflows	£11,400	
Opening balance	£800	
Net cash flow	-£400	
Closing balance		

29. Advise the business on whether any action may be required regarding its pr[cut off]

30. Majestic Electronics sells a range of electrical items including televisions, wash[cut off]
    well as providing a repair service. At the start of each year demand is usually [cut off]
    money available to spend due to increased costs over Christmas. The busines[cut off]
    balance next year of £1,125 with expected cash flows for the first two quarte[cut off]
    - Repair sales – £1,300 (QTR1), £2,175 (QTR2)
    - Electrical sales – £6,500 (QTR1), £10,875 (QTR2)
    - Stock – £5,175 (QTR1), £6,600 (QTR2)
    - Labour – £2,440 (QTR1), £2,625 (QTR2)
    - Rent – £1,200 (QTR1), £1,200 (QTR2)
    - Utilities (gas/electricity) – £525 (QTR1), £525 (QTR2)
    - Telephone – £210 (QTR1), £210 (QTR2)

    a) Copy and complete Majestic Electronics' cash flow forecast for the first[cut off]

	Quarter 1	
Cash inflows		
Repair sales		
Electrical sales		
Total cash inflows		
Cash outflows		
Stock		
Labour		
[illegible]s		
Telephone		
Total cash outflows		
Opening balance		
Net cash flow		
Closing balance		

    b) Discuss whether a small business owner should take the time to produce a c[cut off]

SECTION 8 – INTERPRETING INFORMATION FROM GR

Students are required to interpret information from graphs and charts to answe
ask students to read directly from the graph or chart and/or use the data to perf
The data could also be used by the student to justify an answer, e.g. the data cou
a business decision, especially for a higher-mark question.

The graphs and charts could take a range of formats, e.g. bar chart, pie chart, line
name but a few.

UK Base Rate - January 1985 to January 2018

Profitability changes

Sale
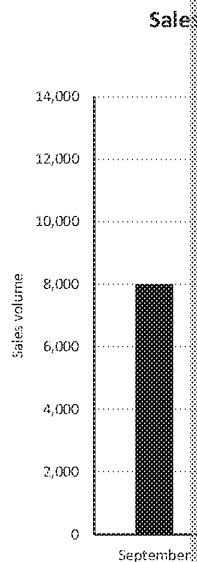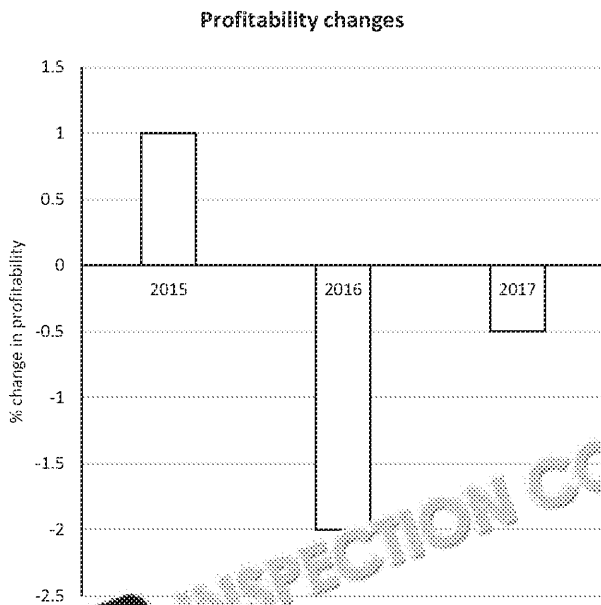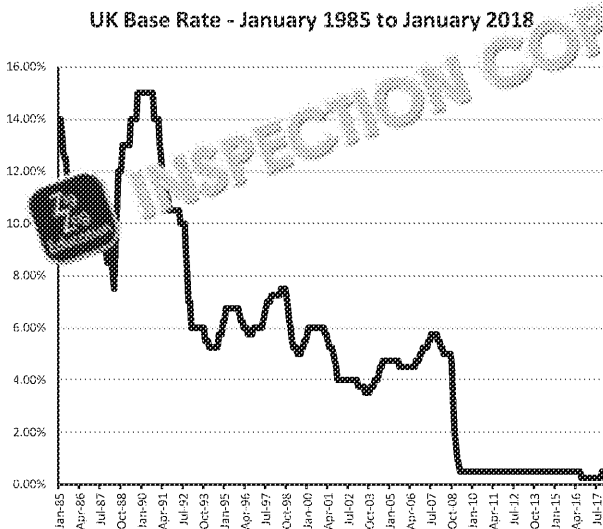
The informa ithin the graph or chart could be supplemented by some quali
especially for a question that is worth more marks. In this case, students should
written extract alongside the graph and/or chart.

MULTIPLE-CHOICE QUESTIONS

1. Figure 8 shows the cost of advertising on Jobz website (a leading job vacancy advert website). Ceri has advertised a head chef vacancy within her restaurant on Jobz website. Jobz will charge 50p per click and £1.50 for each time Ceri contacts applicants. 200 people clicked on the job advert and Ceri contacted nine people who posted their CVs.
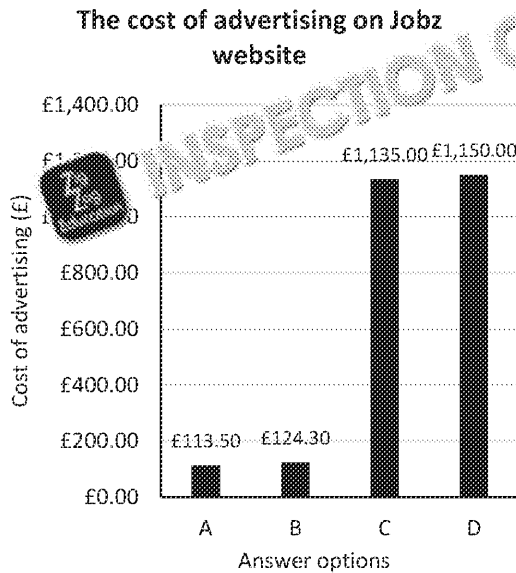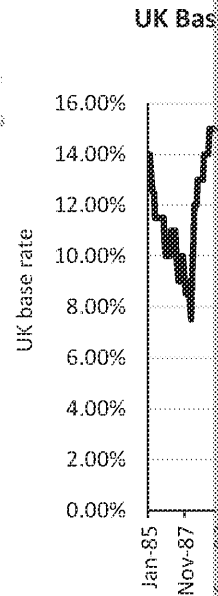

The cost of advertising on Jobz website

Figure 8

How much did it cost Ceri to advertise the job? Select the correct answer from the bar chart above.

A. £113.50
B. £124.30
C. £1,135.00
D. £1,150.00

(1 mark)

2. Ozzy is carrying ⬚ investigate how ⬚ the period Janua⬚ plotted the data⬚ (Figure 9) below⬚

UK Bas⬚

UK base rate reg⬚ data in Ozzy's ch⬚ the following m⬚ lowest level?

A. September ⬚
B. September ⬚
C. October 19⬚
D. June 2008

3. The UK base rat⬚ to the data in O⬚ happened to int⬚ early 2009?

A. Interest rat⬚
B. Interest rat⬚
C. Interest rat⬚
D. Interest rat⬚

4. The UK base rate regularly changes. According to the data in Ozzy's chart (Figure 9), what happened to interest rates during early 1990?
   A. Interest rates increased
   B. Interest rates reached their lowest level
   C. Interest rates decreased
   D. Interest rates peaked

   (1 mark)

5. Pati's shop sells four brands of washing powder (Figure 10). Which brand accounts for 50% of total sales?

   A. Whizz Whites
   B. Dazzle
   C. Snowy Wonder
   D. Crazi Clean

   (1 mark)

6. Four firms operate in a market as shown in Figure 11. If the total value of sales within the market is £45,000, which firm has one sixth of the sales value of the market leader?

   A. Firm A
   B. Firm B
   C. Firm C
   D. Firm D

   (1 mark)

7. Figure 12 shows the proportion of sales of the five products sold within Khaterah's business. Which product represented a quarter of the sales made by Khaterah's business?

   A. Product 1
   B. Product 3
   C. Product 4
   D. Product 5

   (1 mark)

Sales

☒ Whizz
■ Snowy
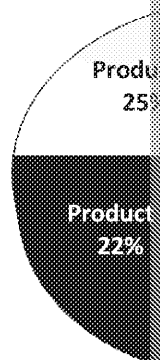
M

10%

25%

☐ Firm A

Prod
25

Product
22%

8. Crystal has carried out some market research to investigate ice cream flavour preferences. She has presented her results in a tally chart. How many people rated Raspberry Ripple as their favourite flavour?

Flavour	Number of people who rated the flavour as their favourite
Chocolate	IIII
Raspberry Ripple	IIII
Strawberry	IIII II
Vanilla	IIII

A. 10 people
B. 8 people
C. ~~6 people~~
D. ~~4 people~~

(1 mark)

9. Christian runs a small hotel in the seaside town of Weymouth. The following bar chart shows the results to a market research question carried out by Christian, who is reviewing the results from a customer satisfaction survey. The question asked customers to indicate how much they agree with the following question – 'The food during my stay was delicious'.

A bar chart to show the results to the question - The food during my stay was delicious
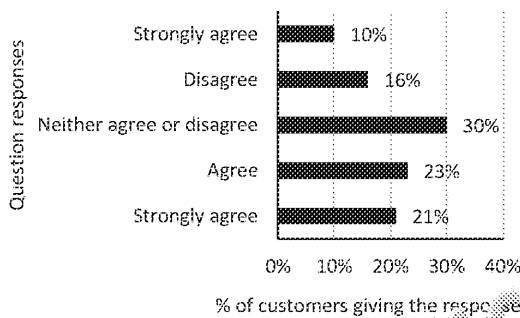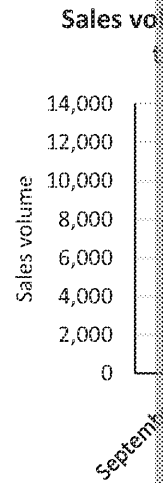

Figure

What ~~percentage of~~ customers gave a positive respon~~se to C~~hristian's question?
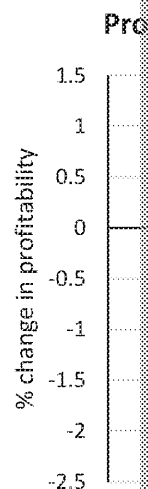
A. 16%
B. 23%
C. 26%
D. 30%

(1 mark)

10. Figure 14 show~~s~~
If the price of e~~ach~~
did the busines~~s~~

Sales vo~~lume~~

A. September
B. October
C. November
D. December

11. The annual profit~~s~~
Which of the four~~~~
what happened t~~o~~

Pro~~fitability~~

A. Profitabilit~~y~~
B. Profitabilit~~y~~
C. The busine~~ss~~
D. Profitabilit~~y~~

12. Figure 16 shows UK unemployment over the 20-year period from 1997 to 2017. During which of the following periods did unemployment increase by the greatest percentage?
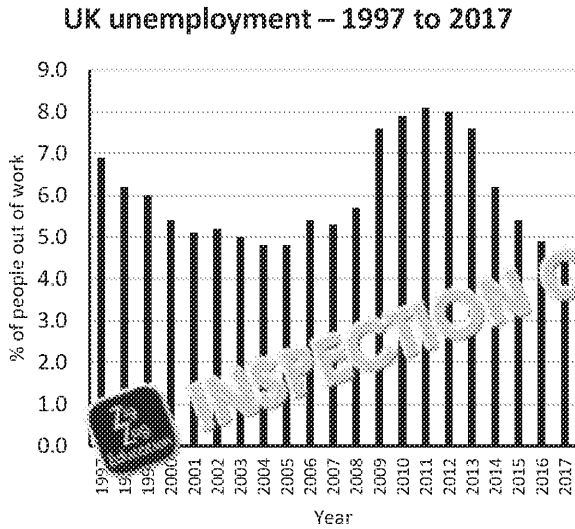
UK unemployment – 1997 to 2017

Figure 16

A. 1997–1998
B. 2001–2002
C. 2006–2006
D. 2008–2009

(1 mark)

13. Four firms operate in a market as shown in Figure 17. If the total value of sales within the market is £45,000, what value of sales is held by Firm C?
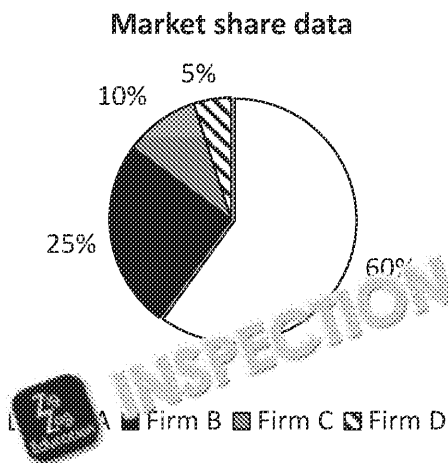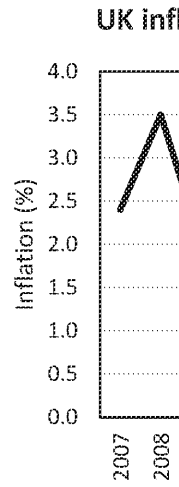
Market share data

Firm A Firm B Firm C Firm D

Figure 17

A. £2,250
B. £11,250
C. £4,500
D. £9,000

(1 mark)

14. Figure 18 shows
period from 200
inflation at its lo

UK infl

A. 2007
B. 2011
C. 2013
D. 2015

15. Five firms operat
19. If the total v
is £45,000, which
the market?
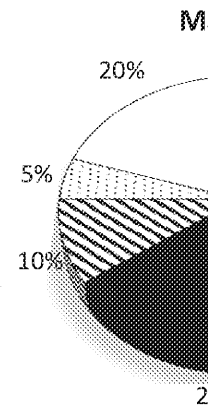
A. Firm A
B. Firm B
C. Firm C
D. Firm D

16. Figure 20 shows UK unemployment over the 10-year period from 2007 to 2[ ]
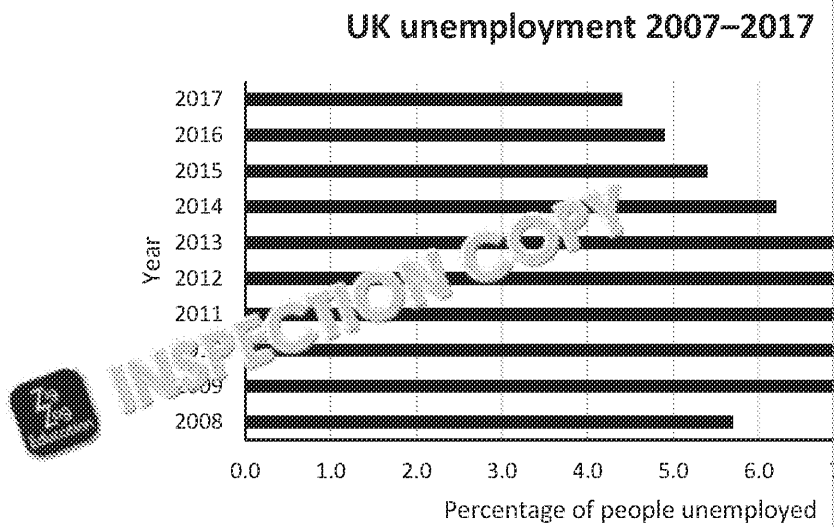   rate of unemployment was at the lowest level and the highest level.

UK unemployment 2007–2017

Figure 20

17. Pati's shop sells four brands of washing powder. Based on the data in Figur[ ]
    during the month of June?

Sales of washing powder in June
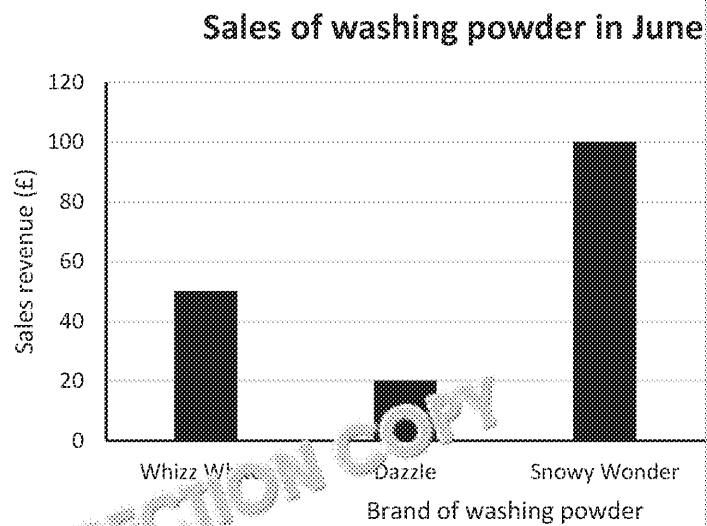
Figure 21

18. A business produces a break-even chart to include in its business plan. What is t

Break-even chart for widget
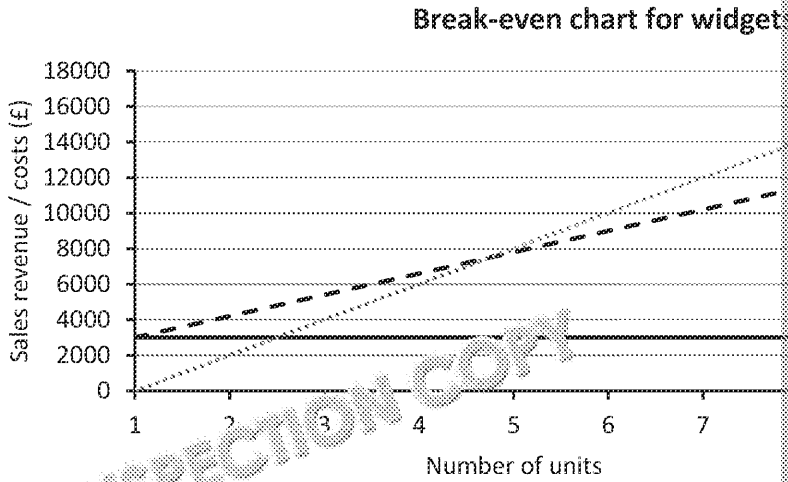
Figure 22

19. Four businesses operate in a market. Which firm had the biggest increase in mar

Change in market share – 2017 to 2018
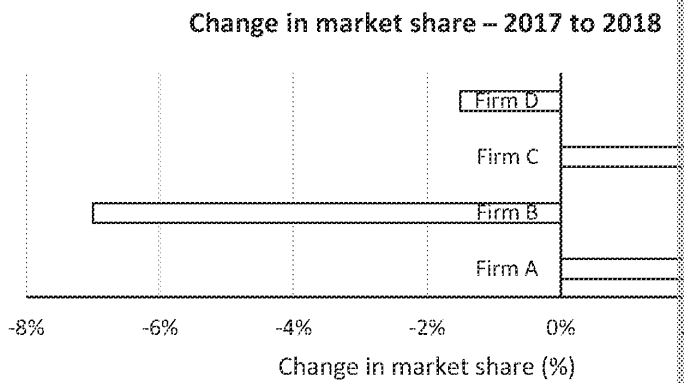
Figure 23

20. Figure 24 shows the sales of four products during a shop's first month of tra
one third of the sales revenue generated by the best-selling product?

Product sales revenue
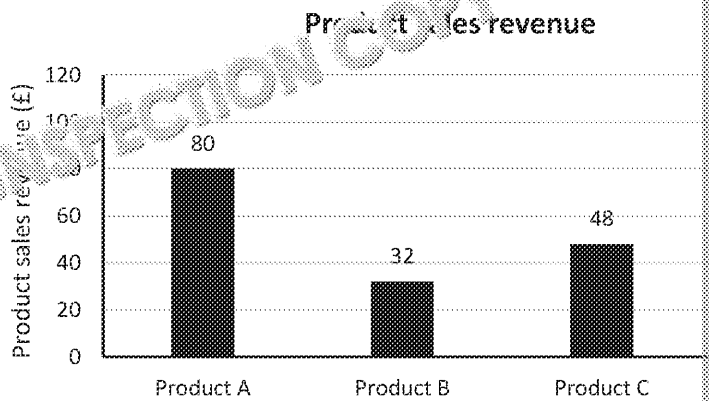
Figure 24

21. Six firms operate in a market. The pie chart below shows the annual revenu[
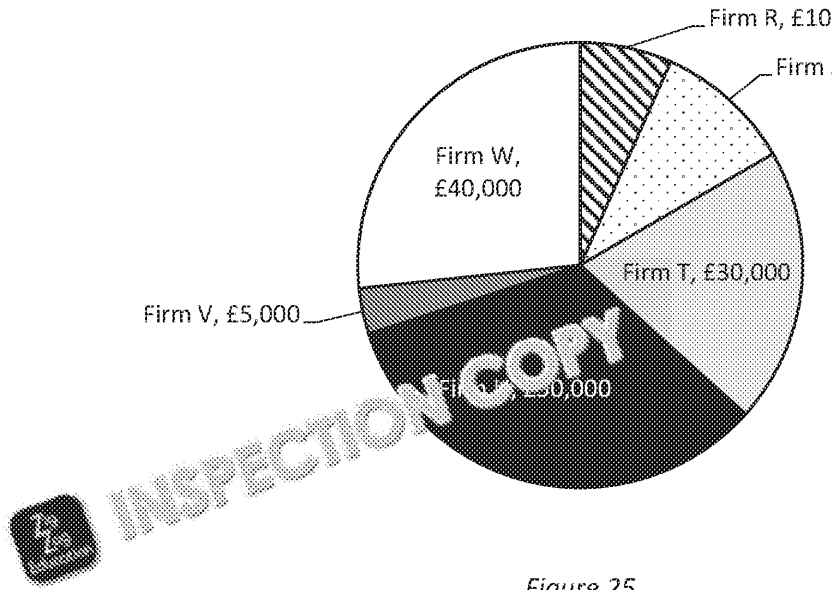
Figure 25

Calculate the market share of Firm T. Show all workings. Give your answer to t[

22. Using the information within Figure 26 below, calculate the average monthly[
    Shop for October, November and December. Show all workings. Give your a[

Sales revenue for Sally's Hair Shop
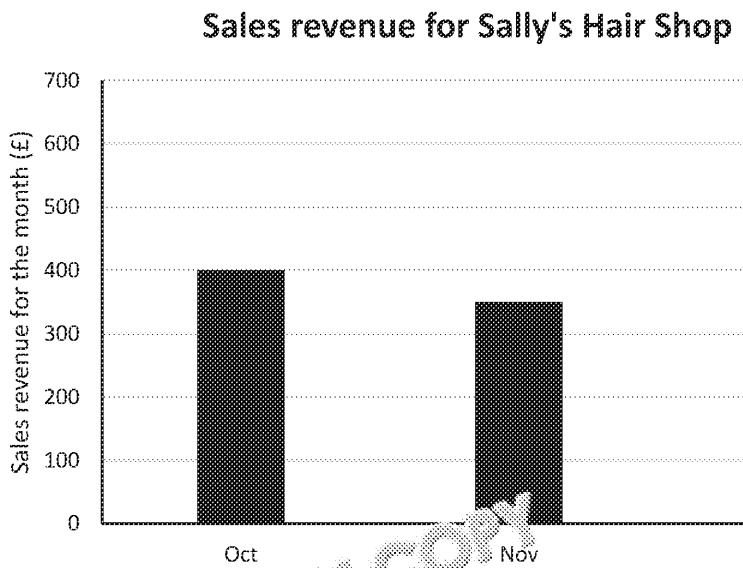
Figure 26

MARK SCHEMES

SECTION 1 – PERCENTAGES AND PERCENTAGE CHANGES

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	C
2	C
3	A
4	C
5	C
6	C
7	A
8	A
9	D
10	B
11	
12	
13	C
14	B
15	D

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/Long-response questions

16. • 1 mark for finding the total number of staff
    • 1 mark for finding the percentage of the total number of staff that work part-ti
    • 1 mark for correctly expressing the answer to one decimal place with a % sign

    Total number of staff = 730 full-time + 143 part-time = 873 staff (1)
    % of staff that work part-time = 143 ÷ 873 × 100 = 16.380297% (1) (OFR)
    % of staff that work part-time = 16.4% (1) (OFR)

17. • 1 mark for finding 8% of employees at the start of last year
    • 1 mark for calculating the number of staff that now work for the business. Answer

    8% of 200 staff = 8 ÷ 100 × 200 staff = 16 employees (1)
    Number of employees currently working at business = 200 staff – 16 staff = 184 staf

18. • 2 marks for applying the correct formula
    • 1 mark for correct answer, expressed to the nearest whole pound with a £ sigr

    Sales revenue in 2017 = 100 ÷ 118.7 × £783,794 (1)
                           = £659,794.4398 (1)
                           = £659,794 (1) (OFR)

19. • 1 mark for calculating the number of people that the population declined by
    • 1 mark for calculating the number that it declined by the original number in th
    • 1 mark for presenting the correct answer correct to one decimal place with a %

    Total number of people that population declined by = 673,563 – 547,200 = 126,363
    % decline = 126,363 ÷ 547,200 × 100 = 23.09265% (1)
    % decline = 23.1% (1) (OFR)

20. • 1 mark for calculating 75% profit margin
    • 1 mark for using formula to add 75% profit margin to cost to find the price
    • 1 mark for the correct price, expressed to the nearest whole penny (p)

    Profit margin = 75 ÷ 100 × 16p = 12p (1)
    Price = Cost of production + profit margin (1)
    Price = 16p + 12p = 28p (1) (OFR)

21. • Marks for this question: AO2 = 2

    8 / 100 × 60p = 4.8p (1)
    New price = 60p + 4.8p = 65p (1) (OFR)

22. • Marks for this question: AO2 = 3
    • AO2 – Applies the correct calculations × 3

    Discount offered to each employee
    i)   Chris = 15% × £15.60 = £2.34 (1)
    ii)   Bobby = 15% × £25.60 = £3.84 (1)
    iii) Total cost of discount = £2.34 + 3.84 = £6.18 (1) (OFR)

23. • Marks for this question: AO2 = 3
    • AO2 – Applies the correct calculations × 3

    Commission = 10% × £600 = £60 commission earned (1)
    Wages = £8 per hour × 37 hours = £296 (1)
    Total pay received = £60 + £296 = £356 (1) (OFR)

24. • Marks for this question: AO2 = 4
    • AO2 – Applies the correct calculations × 4

    65% = 85 customers (1)
    1% = 1.3 customers (1)
    100% – 65% = 35% (1)
    35% = 45.5 customers (or 46 customers) (1)

25. • Marks for this question: AO1 = 1; AO2 = 4
    • 1 mark for accurately stating the formula used to calculate the market share
    • 4 marks for the workings/calculation

    $$\frac{Sales\ for\ SS\ plc}{Total\ value\ of\ sales\ for\ market} \times 100\ (1)\ (AO1)$$

    $$\frac{£135,000}{£1,000,000} \times 100$$
    = 13.5% share of the market in 2015 (1)

    $$\frac{£155,000}{£1,250,000} \times 100$$
    = 12.4% share of the market in 2016 (1)

    12.4% – 13.5% (1) (OFR)
    = -1.1% reduction in market share (1) (OFR)
    For the full 5 marks the % sign must accompany the correct numerical answer

26. • Marks for this question: AO1 = 1; AO2 = 4
    • 1 mark for accurately stating the formula to be used
    • 4 marks for the calculation

    Cost-plus pricing = Cost of producing the product + % profit margin (1)

    Widgets   = 110p + 55%
                  = 55 / 100 × 110p = 60.5p (1)
                  = 110p + 60.5p = 171p to nearest whole penny (p) (1)

    Grommets   = 45p + 35%
                  = 35 / 100 × 45p = 15.75p (1)
                  = 45p + 15.75p = 61p to nearest whole penny (p) (1)

SECTION 2 – AVERAGES

Multiple-choice questions

Total for this section: 15 marks

Question number	Answer
1	A
2	C
3	C
4	D
5	C
6	B
7	B
8	A
9	D
10	A
11	B
12	D
13	C
14	B
15	B

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/Long-response questions

16.

Employee 1	£175
Employee 2	£229
Employee 3	£250
Employee 4	£190
Employee 5	£346
Employee 6	£296

- 1 mark for adding up the total wages over the week
- 1 mark for calculating the average
- 1 mark for expressing the average to the nearest whole penny (p) with a £ sign

Total wages = £175 + £229 + £250 + £190 + £346 + £296 = £1,486 (1)
Average = £1,486 ÷ 6 employees (1) (OFR)
Average = £247.67 (1) (OFR)

17.

Customer 1	£1.57
Customer 2	£3.48
Customer 3	£2.80
Customer 4	

- 1 mark for adding up the total customer expenditure
- 1 mark for calculating the average
- 1 mark for expressing the average and selecting the customer that spent close

Total customer expenditure = £1.57 + £3.48 + £2.80 + £1.20 = £9.05 (1)
Average = £9.05 ÷ 4 customers (1) (OFR)
Average = £2.26
Customer 3 spent nearest to the average (1) (OFR)

18.
- 1 mark for rearranging the average formula
- 1 mark for calculating the total of the five cameras
- 1 mark for calculating the price of the fifth camera and expressing the answer to th

Total of the five prices = Number of cameras × Average price of cameras (1)
= 5 cameras × £123
= £615 (1)

Price of fifth camera = Total of five cameras – Total of four cameras
= £615 – (£100 + £110 + £130 + £150)
= £615 – £490
= £125 (1) (OFR)

19.
- 1 mark for adding up the total of the three quotes
- 1 mark for calculating the average
- 1 mark for expressing the average and expressing the answer to the nearest p

Total of the three quotes £335 + £403 + £426 = £1,164 (1)
Average 1,164 ÷ 3 quotes (1)
Average

20.
- 1 mark for identifying that the average is already given
- 1 mark for expressing the average rent

Average monthly rent = £1,200

21.
- Marks for this question: AO2 = 3
- 3 marks for applying the correct calculations

Cost per unit each month
i   April = £254 / 231 = £1.10 (1)
ii   May = £250 / 268 = £0.93
iii June = £180 / 174 = £1.03 (1)
iv   Average cost per unit = (£1.10 + £0.93 + £1.03) / 3 = £1.02 (1) (OFR)

22.
- 1 mark for adding up the total monthly sales
- 1 mark for calculating the average
- 1 mark for expressing the average

Total monthly sales = £24,762 + £97,278 + £56,731 + £20,384 + £8,492 = £207,647 (
Average = £207,647 ÷ 5 branches (1) (OFR)
Average = £41,529.40 (1) (OFR)

23. • Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of the significance of using the average to comp⋮ • Elementary knowledge and understanding of the significance of using t⋮ branch performance is applied to the context of question
2	Some analysis of themes/subject based on the context • Partial analysis of impact on the business • Applies some knowledge and understanding of the significance of us⋮ compare branch performance applied to the context of question
3	Comprehensive analysis of themes/subject base⋮ ⋮he context • Impact on business is analysed app⋮⋮ ⋮at⋮ • Applies knowledge and u⋮⋮⋮ ⋮n⋮⋮ ⋮of the significance of using the branch performa⋮⋮⋮ ⋮ ⋮⋮⋮ to the context

Indicative ⋮⋮te⋮⋮

• C⋮⋮⋮g ⋮⋮⋮ average is a way of putting the monthly sales figures for each b⋮
• Th⋮⋮⋮ge provides a quantitative benchmark to compare the monthly sales⋮
• The average does not take into account the size of the branches – is Wells bra⋮
size of the place/branch or due to the branch underperforming?
• Using the average as a benchmark only indicates that something may be wron⋮
further to find the root cause of the issue

Analysis
• Positive – the average is relatively easy to calculate and compare individual br⋮
• Negative – the average does not take account of other contextual factors, e.g.⋮
environment that each branch operates within, size of branch, specific mitigat⋮

Example of a developed response:
The average, when used to compare individual branch performance, is relatively easy⋮
a way of comparing each branch with the 'middle' level of performance within the bus⋮
minimum benchmark (L2). However, each branch may differ in size and the average ⋮
only way to do this is to use a calculation to work out the average monthly sales base⋮

24. • 1 mark for rearranging the average formula
   • 1 mark for calculating the total of the three employees
   • 1 mark for calculating Hebe's monthly sales and expressing the answer to the ⋮

Total of the four employees = Number of employees × Average monthly sales (1⋮
  = 4 staff × £510
  = £2,040 (1)
Hebe's monthly sales = Total of four emplo⋮⋮⋮ ⋮o⋮⋮l of three employee⋮
  = £2,040 – (£4⋮0 ⋮£⋮⋮ ⋮£510)
  = £2⋮⋮1 ⋮ ⋮⋮⋮0
  ⋮£5⋮⋮ ⋮⋮1⋮(OFR)

SECTION 3 – REVENUE, COSTS AND PROFIT

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	B
2	C
3	C
4	A
5	A
6	D
7	D
8	B
9	A
10	D
11	A
12	A
13	A
14	A
15	B

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/long-response questions
16. • 1 mark for putting figures into calculation
    • 1 mark for the correct answer to the nearest whole pence with the £ or p sign

Price of notebook = £350 ÷ 250 (1)
Price of notebook = £1.40 (1)

17. • 1 mark for putting figures into calculation
    • 1 mark for the correct answer to the nearest whole pence with the £ sign

Total sales revenue = 15 pairs × £19.99 (1)
Total sales revenue = £299.85 (1)

18. • 2 marks for calculating the revenue of each product range
    • 1 mark for totalling the revenue of the shop's three products
    • 1 mark for the correct answer to the nearest whole pence with the £ sign

Total sales revenue
    • 100 sandwiches × £1.75 = £175
    • 85 bottles × 60p = £51
    • 45 bags × £1.10 = £49.50

Total revenue = £175 + £51 + £49.50 (1) (OFR)
Total revenue = £275.50 (1) (OFR)

19. • 1 mark for calculating the total variable costs
    • 1 mark for putting the figures correctly into the calculation for the total costs
    • 1 mark for the correct answer to the nearest whole pound with the £ sign

Total variable costs = £0.05 × 5,000 units = £250 (1)
Total costs = £10,000 fixed + £250 variable (1)
Total costs = £10,250 (1) (OFR)

20.
- 1 mark for expressing the correct formula to find the revenue
- 1 mark for putting the figures correctly into the calculation for the revenue
- 1 mark for the correct answer to the nearest whole pound with the £ sign

Total sales revenue = Profit + (Fixed costs + Variable costs) (1)
= £65,000 + (£12,000 + £24,000) (1)
= £101,000 (1)

21.
- 1 mark for putting the figures correctly into the calculation
- 1 mark for the correct answer to the nearest whole pence with the £ sign

7 / 100 × 99p = 6.93p (1)
New price = 99p + 6.93p = 105.93p / £1.06 (1) (OFR)

22.
- 1 mark for putting the figures correctly into the calculation
- 1 mark for the correct answer with the £ sign

Profit = revenue – total costs
Profit = £500 – ? = £300,000 (1)
Total costs = £135,500 (1)

23.
- 1 mark for knowing formula for the revenue
- 0.5 mark for revenue per month
- 1 mark for adding the total revenue

Revenue = Sales volume × Unit selling price (1)
Revenue per month (2)
September = 8,000 × £4 = £32,000
October = 10,000 × £4 = £40,000
November = 10,000 × £4 = £40,000
December = 12,000 × £4 = £48,000

Total revenue = £32,000 + £40,000 + £40,000 + £48,000 = £160,000 (1)

24.
- 1 mark for knowing formula
- 0.5 mark for revenue per day
- 1 mark for adding the total revenue

Sales revenue = Sales volume × Unit selling price (1)
Revenue per day (3)
Monday = 25 × £4.95 = £123.75
Tuesday = 30 × £4.95 = £148.50
Wednesday = 45 × £4.95 = £222.75
Thursday = 20 × £4.95 = £99.00
Friday = 40 × £4.95 = £198.00
Saturday = 38 × £4.95 = £188.10

Total revenue = £123.75 + £148.50 + £222.75 + £99.00 + £198.00 + £188.10 = £980.

25.
- 1 mark for correct formula
- 1 mark for correct answer with £ sign

Total revenue = Sales volume × Price per unit (1)
1367 coffees × £2.80 = £3827.60 (1)

26. • Marks for this question: AO1 = 1; AO2 = 4

Sales revenue – (Fixed costs + Variable costs) = Profit; AO1 (1)
OR
Sales revenue – Total costs = Profit; AO1 = 1 (1)

Monthly fixed costs = £18,000 / 12 = £1,500 (1)
Total variable cost for the month = £0.25 × 1,000 = £250 (1)
Monthly total cost = £1,500 + £250 = £1,750 (1) (OFR)
Total revenue for the month = £3.00 × 1,000 = £3,000
Total profit for the month = £3,000 – £1,750 = £1,250 (1) (OFR)

27. • Marks for this question: AO1 = 1; AO2 = 4

Sales revenue – (Fixed costs + Variable costs) = Profit; AO1 (1)
OR
Sales revenue – Total costs = Profit; AO1 = 1 (1)

Monthly fixed costs = £666.67 (1)
Monthly variable = £12 × 40 = £480 (1)
Total cost = £666.67 + £480 = £1146.67 (1) (OFR)

Current revenue = £25 × 40 = £1,000
Current profit/loss = £1,000 – £1,146.67 = -£146.67 (1) (OFR)

28. Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of the impact on revenue if the price of each car • Elementary knowledge and understanding of the impact on revenue increases by 10%
2	Some analysis of themes/subject based on the context • Partial analysis of the impact on revenue if the price of each car incr • Applies some knowledge and understanding of the impact on reven car increases by 10%
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to compete as a result of the impa price of each car increases by 10% • Applies comprehensive knowledge and understanding of the impact of each car increases by 10%

Indicative content
• Revenue = number of cars sold × price per car
• If the price increases by 10% Kai will earn more r   e ; the number of cars
• If the price increases by 10%, though, Ka m y fi   at demand for his cars re reduces significantly he may find   revenue may fall

Analysis
• If the ice   by 10% Kai will earn more revenue if the number of cars
• If   e i   eases by 10%, though, Kai may find that demand for his cars re re   gnificantly he may find that total revenue falls
• The impact on revenue will vary depending upon the sensitivity of demand to increase if the number of cars sold reduces by a smaller proportion than the p

Example of a developed response:
Revenue = number of cars sold × price per car (1). The impact on revenue will depe the cars (1). If the price increases by 10% Kai will earn more revenue if the number will earn more revenue per car sold (1). If the price increases by 10%, though, Kai n reduces (1) and if the number of cars sold reduces significantly he may find that tot revenue will vary depending upon the sensitivity of demand to the price change (1)

Section 4 – Break-even

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	C
2	D
3	A
4	B
5	A
6	B
7	C
8	A
9	C
10	A
11	D
12	A
13	A
14	B
15	A

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/long-response questions

16. Answer = Variable costs (1)

17.
*   1 mark for the correct formula/calculations
*   1 mark for putting the correct figures into the formula
*   1 mark for the correct answer

Margin of safety = Number of items sold – Break-even output (1)
Margin of safety = 180 – 150 (1)
Margin of safety = 30 cushions (1) (OFR)
Maximum of 2 marks for an answer expressed as a monetary value, e.g. £30

18.
*   1 mark for the correct formula
*   1 mark for putting the correct figures into the formula
*   1 mark for the correct answer

Margin of safety = Number of items sold – Break-even output (1)
250 bags = ? – 60 bags
? = 250 bags + 60 bags (1)
? = 310 bags (1) (OFR)

19.
*   1 mark for the correct formula
*   1 mark for the correct answer

Margin of safety = Current output – Break-even level of output
Margin of safety = 1298 units – 1200 units (1)
Margin of safety = 98 units (1)

20.
*   1 mark for correctly identifying a variable cost, e.g. fuel, tyres

21. a. • 1 mark for the correct formula
    • 1 mark for putting the correct figures into the formula
    • 1 mark for the correct answer

    Margin of safety = Number of items sold – Break-even output (1)
    50 houses = ? – 340 houses
    ? = 50 houses + 340 houses (1)
    ? = 390 houses (1) (OFR)

    b. 5% × 390 houses = 19.5 houses (20 houses) (1)
    New target = 390 houses + 20 houses
    = 410 houses (1) (OFR)

22. • 1 mark for correctly identifying each line

    Line A = Total costs
    Line B = Fixed costs
    Line C = Sales revenue

23. • 1 mark for the correct formula
    • 1 mark for putting the correct figures into the formula
    • 1 mark for the correct answer

    Margin of safety = Number of items sold – Break-even output (1)
    35 units = 60 units – ?
    60 units – 35 units = ?
    ? = 25 units (1) (OFR)

24. • 1 mark for the correct formula/calculations
    • 1 mark for putting the correct figures into the formula
    • 1 mark for the correct answer

    Profit = Margin of safety × Selling price per unit
    35 units × £30 = £1,050 (1)

25. • Marks for this question: AO2 = 1; AO3 = 2

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of one reason why the bank manager has asked analysis as part of the business plan • Applies elementary knowledge and understanding of one reason why asked to see a break-even analysis as part of the business plan
2	Some analysis of themes/subject based on the context • Partial analysis of one reason why the bank manager has asked to see part of the business plan • Applies some knowledge and understanding of one reason why the see a break-even analysis as part of the business plan
3	Comprehensive analysis of themes/subject based on the context • Comprehensive analysis of impact on business of the break-even and has asked to see as part of the business plan • Applies comprehensive knowledge and understanding of one reason has asked to see a break-even analysis as part of the business plan

Indicative content
* Break-even analysis shows how many units need to be sold/produced by Tarq▓
* The bank manager can look at this information to see how 'safe' the business'▓
* If Tarquin has the break-even analysis available he demonstrates to the bank ▓
  business owner, which will support the manager's trust of his ability to run a s▓
  funds. It shows that Tarquin has given thought to the number of units he nee▓
* The break-even analysis can be used by Tarquin to support his decision-makin▓

Analysis
* Having the break-even analysis available will increase Tarquin's likelihood of o▓
  Tarquin has given thought to the number of units he needs to sell/produce to ▓
  understands how to manage his business in a financially appropriate manner.▓

Example of a developed response:
*Having the break-even analysis available shows th▓ ▓ ▓ ▓ ▓ has considered the num▓
to break even and it is a common sectio▓ ▓ ▓ si▓ ▓ plan (1). It also shows that he▓
business in a financially approor▓ ▓ ▓ ▓ and be successful, so he is more likely to▓
also see how 'safe' the ▓▓ ▓ ▓ ▓ it is and question Tarquin about the operation ▓*

26. * Ma▓ ▓ this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context
	* Elementary analysis of two advantages of calculating the break-even▓
	* Applies elementary knowledge and understanding of two advantage▓ break-even level of output
2	Some analysis of themes/subject based on the context
	* Partial analysis of two advantages of calculating the break-even leve▓
	* Applies some knowledge and understanding of two advantages of ca▓ level of output
3	Comprehensive analysis of themes/subject based on the context
	* How two advantages of calculating the break-even level of output w▓ and its ability to compete.
	* Applies comprehensive knowledge and understanding of two advan▓ break-even level of output

Indicative content
* Break-even analysis shows how many units need to be sold/produced by Tarq▓
* He can see how 'safe' the business's profit is by looking at the margin of safet▓
* The forecast can be used to make decisions about any price changes and also ▓
  and 'what if' scenarios can be considered.

Analysis
* Tarquin will need to carry out research to pr▓ ▓ ▓ ▓ break-even analysis. It▓
  financial matters relating to the b▓ ▓ ▓ an▓ ▓ithout the need to produce a ▓
  about any of the financial ▓ ▓ ▓
* Tarquin can use t▓ ▓ ▓ ▓ analysis to make robust pricing decisions. He▓
  if n▓ ▓ ary▓

Two ad▓ ▓ ▓ s required for a total of 6 marks (2 x 3).

Example of a developed response on one advantage as follows:
*Tarquin will need to carry out research to produce the break-even analysis. It will f▓
financial matters relating to the business, and without the need to produce a break▓
about any of the financial figures (1). This will increase the chances of his business ▓
uncover potential problems (1). He can also use the information to make decisions ▓
costing decisions (1).*

27. Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of two limitations of carrying out a break-even a • Applies elementary knowledge and understanding of two limitations of analysis
2	Some analysis of themes/subject based on the context • Partial analysis of two limitations of carrying out a break-even analys • Applies some knowledge and understanding of two limitations of carryin
3	Comprehensive analysis of themes/subject based on the context • How two limitations of calculating the break-even level of output wi and its ability to compete • Applies comprehensive knowledge and understanding of two limitat break-even analysis

Indicative answer:
• Break-even analysis shows how many units need to be sold/produced by Tarq
• The figures used in break-even analysis are only predicted, and, therefore, the
a variety of reasons, e.g. new competitors, poor market research
• The business may be new, which increases the likelihood of a break-even anal
yet to become experienced and also the business's performance is still unknow
experienced and there are previous months' trading/performance to analyse,
more accurate.

Analysis
• The figures used in break-even analysis are only predicted, and, therefore, the
a variety of reasons
• When the figures were predicted, Tarquin may not have been aware that one
retire and close their business two months after opening. This may result in h
predicted, so offering more opportunity to increase prices without affecting d
• The cost of his raw materials may increase. If the cost of the materials increas
units in order to break even.
• Break-even assumes that sales prices are constant at all levels of output.
• Break-even assumes production and sales are the same. Often businesses hav
• Break-even charts may be time-consuming to prepare.
• It can only apply to a single product or single mix of products. Many business
that cost varying amounts (and are sold at different prices).

Two limitations required for a total of 6 marks (2 x 3).

Example of a developed response on one limitation as follows:
*Break-even analysis involves forecasted figures and the predictions may not prove to l
Tarquin is new to running a business and also his business is not have any past dat
For instance, Tarquin may misjudge the potential demand or not build in the threat of
product. These differences may result in any decisions that Tarquin makes being flawe
could result in the business being uncompetitive or could result in a loss (1).*

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	B
2	D
3	C
4	B
5	D
6	B
7	B
8	C
9	A
10	B
11	A
12	D
13	B
14	D
15	D

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/Long-response questions

16. • 1 mark for transferring the figures into the formula
    • 1 mark for the correct answer with the £ sign

    Net profit = Sales revenue – Total costs
    = £458 – £257 (1)
    = £201 (1)

17. • 1 mark for transferring the figures into the formula
    • 1 mark for the correct answer with the % sign

    Net profit margin = Net profit ÷ Sales revenue × 100
    = £8,000 ÷ £100,000 × 100 (1)
    = 8% (1)

18. • 2 marks for expressing the gross profit margin formula, rearranging it and tran[
    • 1 mark for the correct answer with the £ sign expres[ ] the nearest whole [

    Gross profit margin = Gross profit ÷ Sales reve[nue] × 1[ ]
    Sales revenue = Gross profit ÷ Gros[ ]n[ ] [in] (1)
    Sales revenue = £32,000 ÷ 0.5[4] (1)
    Sales revenue = £59,[ ] (1)

19. • 1 m[ark fo]r presenting the correct formula for the gross profit margin
    • 1 mark for transferring the figures into the formula
    • 1 mark for the correct answer with the % sign (to one decimal place)

    Gross profit margin = Gross profit ÷ Sales revenue × 100 (1)
    = £15,500 ÷ £27,000 × 100 (1)
    = 57.4% (1)

20. • 2 marks for calculating the Gross profit, correctly expressed with a £ sign
    • 2 marks for calculating the Postage cost, correctly expressed with a £ sign

    Gross profit   = Sales – Cost of sales
                    = £11,000 – £6,000 (1)
                    = £5,000 (1)

    Postage   = Gross profit – (Net profit + Heating and lighting)
                    = £5,000 – (£1,700 + £3,000) (1)
                    = £300 (1)

21. • Marks for this question: AO2 = 8

    Table 1:
    Gross profit = £4,000
    Net profit = (£2,750)

    Table 2:
    Gross profit = £48,000
    Net profit = £14,

    Table 3:
    Gross profit = £25,000
    Net profit = £1,500

    Table 4:
    Gross profit = £31,000
    Net profit = £2,500

22. • Marks for this question: AO1 = 1; AO2 = 4
    • 1 mark for accurately stating the gross profit margin formula
    • 4 marks for the calculation

    Gross Profit / Sales Revenue × 100 (1) AO1
    Therefore, the formula will be rearranged to find the Gross Profit = Sales Revenue ×
    Year 1 = £55,000 × 0.35 = £19,250 (1)
    Year 2 = £70,000 × 0.40 =£28,000 (1)
    £28,000 – £19,250
    Difference = £8,750 growth in gross profit (1) OFR

23. a) • 1 mark for each correct answer (up to a maximum of 2 marks)

        i)   £8,300 (1)
        ii) £18,000 (1)

    b) • 1 mark for putting the correct figures into the formulas (up to a maximum
       • 1 mark for the correct gross profit margin expressed with the % sign (up

         Gross Profit / Sales R   0
         Year 1   =   1,000 × 100 (1)
                               % (1)
              2   = £42,000 / £50,000 × 100 (1)
                      = 84% (1)

c) • Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of the impact of the change in the gross pr[...] • Elementary knowledge and understanding of the impact of the [...] profit margin
2	Some analysis of themes/subject based on the context • Partial analysis of the impact of the change in the gross profit m[...] • Applies some knowledge and understanding of the impact of th[...] profit margin
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to comp[...]e as a result of the [...] the gross profit margin is analyse[...] [...]p[...]ately • Applies comprehensive kn[...]w[...]dg[...] [...] [...]understanding of the im[...] the gross profit ma[...]

Indicative content
• The gr[...]s [...]f[...] [...]m[...]g[...]compares the gross profit earned with the value [...]
   [...]it[...] [...] [...]the business. The aim is to achieve the highest gross prof[...]
   [...]usi[...]ess keeps a greater proportion of its sales revenue as gross pro[...]
• [...]cka's gross profit margin has increased during the two-year period, w[...]
   of sales revenue is kept as gross profit, which is positive.

Analysis
• Checka's gross profit margin has increased during the two-year period, w[...]
   of sales revenue is kept as gross profit, which is positive.
• The increase shows that the Cost of Sales has reduced as a proportion of[...]
• Sales revenue and gross profit have both increased in monetary value, b[...]
   the gross profit has increased by a greater proportion than the increase i[...]
• Only two years' worth of accounts are available so it is only a snapshot i[...]

Example of a developed response:
The gross profit margin compares the gross profit earned with the value of sal[...]
profitability of the business. The aim is to achieve the highest gross profit mar[...]
the gross profit margin achieved by Checka has increased over the two years, [...]
Cost of Sales has reduced as a proportion of sales revenue (1). Only two years[...]
hopefully this trend will continue into future years (1).

24. • Marks for this question: AO2 = 3
    • 3 marks for the calculation

Gross Profit / Sales Revenue × 100
Therefore, the formula will be rearranged to find the Cost of goods sold = Sales rev[...]
Cost of goods sold = £1,450 × 30% = £435 (1)
Cost of goods sold = £1,450 − £435
Cost of goods sold = £1,015 (1)

25. • Marks for this question: AO1 = 2
    • 1 mark for applying the figures the correct form[...][...]
    • 1 mark for the correct answer

£55,000 / £200,000 × 100 (1)
= 27.5%, i.e. 28% to the n[...][...] wh[...][...] percentage (1)

Note:
Award [...]re [...][...]y. Full marks can be awarded if correct answer is shown but th[...]

26. • 1 mark for putting the correct figures into the formulas (up to a maximum of [...]
    • 1 mark for the correct gross/net profit margin, expressed with the % sign (up t[...]

Gross Profit / Sales Revenue × 100
= £205,000 / £320,000 × 100 (1)
= 64.1% (1)

Net Profit / Sales Revenue × 100
= £165,000 / £320,000 × 100 (1)
= 51.6% (1)

SECTION 6 – AVERAGE RATE OF RETURN

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	D
2	A
3	A
4	A
5	B
6	A
7	C
8	A
9	C
10	B
11	C
12	A
13	A
14	B
15	A

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/long-response questions

16. • 1 mark for displaying the correct formula

    ARR = Average annual profit ÷ Initial cost of investment × 100 (1)

17. • 1 mark for rearranging the ARR formula
    • 1 mark for transferring the correct figures into the formula
    • 1 mark for the correct answer with a £ sign and expressed to the nearest whole

    ARR = Average annual profit ÷ Initial cost of investment × 100
    Initial cost of the machine = Average annual profit ÷ ARR (1)
                                  = £4,300 ÷ 0.215 × 100 (1)
                                  Please note that 0.215 is 21.5% expressed as a decimal
                                  = £20,000 (1)

18.

Initial cost of the new factory	£2,000,000
Year 1 net profit	-£32,000
Year 2 net profit	-£5,000
Year 3 net profit	£42,000
Year 4 net profit	£57,000
Year 5 net profit	£98,000

   • 1 mark for calculating average annual return
   • 1 mark for transferring the correct figures into the ARR formula
   • 1 mark for the correct answer with a % sign

Average annual profit = (-£32,000 + -£5,000 + £42,000 + £57,000 + £98,000) ÷ 5
                        = £160,000 ÷ 5
                        = £32,000 (1)

ARR = Average annual return ÷ Initial cost of investment × 100
     = £32,000 ÷ £2,000,000 × 100 (1)
     = 1.6% (1)

19. • 1 mark for rearranging the ARR formula
    • 1 mark for transferring the correct figures into the formula
    • 1 mark for the correct answer with a £ sign

ARR = Average annual profit ÷ Initial cost of investment × 100
Average annual profit   = Initial cost of investment × ARR (1)
                        = £750,000 × 0.158 (1)
                        = £118,500 (1)

20. • 1 mark for calculating the average annual profit/return
    • 1 mark for transferring the correct figures into the ARR formula
    • 1 mark for the correct answer with a % sign
    • 1 mark for a recommendation as to whether the bus is worthwhile investme

Average annual profit   = (£6,000 + £8,500 + £1,000) ÷ 3
                        = £25,500 ÷ 3
                        = £8,500 (1)

ARR   = Average annual profit/return ÷ Initial cost of investmen
                        = £8,500 ÷ £120,000 × 100 (1)
                        = 7.1% (or 7.08% if expressed to two decimal places) (1)

With consideration to the hurdle rate of 10%, the bus is not a worthwhile investment

21. • Marks for this question: AO2 = 7
    • 2 marks for calculating the correct ARR for each of the three machines (up to
    • 1 mark for recommending the machine

The calculation to find the ARR is as follows:

Average annual profit × 100
Initial cost of the investment

Machine A
£8,333 × 100 (1)
£40,000
= 20.8% ARR (1) (OFR)

Machine B
£23,000 × 100 (1)
£75,000
= 30.67% ARR (1) (OFR)

Machine C
£3,500 × 100 (1)
£20,000
= 17.5% ARR (1) (OFR)

For the final mark for the correct ARR, the % sign must accompany the numerical a

Rhiannon should, therefore, choose Machine B because it has the highest ARR resu

22. • Marks for this question: AO2 = 2; AO2 = 2

Level	Description
0	answer worthy of any marks
1	Elementary understanding and application of the theme/subject
	• Applies elementary knowledge and understanding to the context
	• An elementary understanding of how using ARR can support manage investment decision
2	Thorough understanding and application of the theme/subject
	• Applies knowledge and understanding to the context fully and appro
	• A comprehensive understanding of how using ARR can support man investment decision

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Possible answers include:
- The calculation used quantitative data, which is objective
- The calculation is easy to perform and also clear for non-financial specialists to
- The ARR can be compared with other investment opportunities / types of mac
- ARR provides a percentage profit return, which can be compared with a target
- ARR looks at the whole profitability of the project
- Focuses on profitability – a key issue for shareholders

Example of a developed response:
The average rate of return considers financial costs/benefits in an objective manner
understand and can be communicated to those who are not financial specialists to
decision-making process (L2). The average rate of return results can be easily comp
opportunities, e.g. the ARR for the different machines can be compared.

23.
- Marks for this question: AO1 = 1; AO2 =
- 1 mark for accurately stating th... f rm... o be used
- 4 marks for the calcula...

The calcul... n t... ARR is as follows:

Averag... profit × 100 (1) (AO1)
Initial co... the investment

$$\frac{£450}{£2,500} \times 100 \ (2)$$

= 18% ARR (1) (OFR)

For the full 5 marks, the % sign must accompany the correct numerical answer.

24.
- Marks for this question: AO1 = 1; AO2 = 4
- 1 mark for accurately stating the formula to be used
- 4 marks for the calculation

The calculation to find the ARR is as follows:

$$\frac{\text{Average annual profit}}{\text{Initial cost of the investment}} \times 100 \ (1) \ (AO1)$$

= Average annual profit = 9,500 + £11,250 + £12,000 + £10,500 (1)
= 43,250 / 4
= £10,813 (1)

Average rate of return
= £10,813 / £40,000 × 100 (1)
= 27% (1)

25.
- Marks for this question: AO1 = 1; AO2 = 4
- 1 mark for expressing the correct calculation
- 2 marks for calculating the correct ARR f...r ...ch ...he two machines (up to a ...

The calculation to find the ARR i...

Average annual prof... ...
Initial c... he ...ent

Machin...
$$\frac{£16,000}{£40,000} \times 100 \ (1)$$
= 20.8% ARR (1) (OFR)

Machine B
$$\frac{£19,000}{£55,000} \times 100 \ (1)$$
= 34.55% ARR (1) (OFR)

For the final mark for the correct ARR, the % sign must accompany the numerical a...

26. • Marks for this question: AO1 = 2; AO2 = 2

Level	Description
0	No answer worthy of any marks
1	Elementary understanding and application of the theme/subject • Applies elementary knowledge and understanding to the context • An elementary understanding of how using ARR can support manage investment decision
2	Thorough understanding and application of the theme/subject • Applies knowledge and understanding to the context fully and appro • A comprehensive understanding of how using ARR can support man investment decision

Possible answers include:
• Machine B has the highest ARR result which suggests that it should be the ma
• Machine B costs £15,000 more to purchase than Machine A. Katrina may not to buy the more expensive machine.
• The costs incurred by Machine B during the initial 2–3 years are less than th lo for a quick payback, Machine A may be best.
• The purchase of Machine B may not support Katrina's strategic objectives as w may be produced in a way that is harmful to the environment and thus contra carbon neutral

Example of a developed response:
Machine B has the highest ARR result, which suggests that it should be the machine other factors should be considered, e.g. Machine B costs £15,000 more to purchase Katrina from purchasing it if she is unable to raise the funds (L2). Also Machine B's p years of its life, which is arguably risky as the longer in the future the profits are fore will not materialise (L2). For these reasons I recommend that Katrina chooses Mach

27. • Marks for this question: AO1 = 2; AO2 = 2

Level	Description
0	No answer worthy of any marks
1	Elementary understanding and application of the theme/subject • Applies elementary knowledge and understanding to the context • An elementary understanding of a limitation of using the average ra investment decision
2	Thorough understanding and application of the theme/subject • Applies knowledge and understanding to the context fully and appro • A comprehensive understanding of a limitation of using the average an investment decision

Possible answers include:
• The calculation uses forecasted figures. The pre ons may be inaccurate, le the calculation.
• The average rate of return calculation only takes into account financial benefit benefits and costs a d from the calculation.
• The formula ignores the time value of money and does not take into accou

Example of a developed response:
Despite having various benefits, the average rate of return method only considers finar qualitative factors may be of more importance, e.g. impact on brand and long-term str information is forecast and there is a risk that the calculation may lead to misleading re

Section 7 — Cash flow forecasts

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	A
2	C
3	B
4	A
5	D
6	B
7	B
8	D
9	A
10	B
11	
12	
13	C
14	A
15	D

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/long-response questions

16. • 1 mark for knowing the formula
    • 1 mark for transferring the correct figures into the formula
    • 1 mark for the correct answer

    Closing balance = Opening balance + Net cash flow (1)
    = £8,000 + (£5,000 − £3,750) (1)
    = £9,250 (1)

17. • 1 mark for knowing that the closing balance for one month is the opening bala[nce]
    • 1 mark for the correct answer

    Opening balance = £3,400 (2)

18. • 2 marks for knowing the formulas
    • 1 mark for transferring the correct figures into the formula
    • 1 mark for the correct answer

    Net cash flow = Closing balance − Opening balance (1)
    = £44,000 − £30,000
    = £14,000

    Gas = Cash inflow − (Net cash flow + Electricity) (1)
    = £23,000 − (£14,000 + £5,000) (1)
    = £4,000 (1) (OFR)

19. • 1 mark for knowing the correct section

    The closing balance for July should be recorded as the opening balance for August (1)

20. • 2 marks each for explaining each separate point (up to a maximum of two diff[...]

Actions could include:
  • Increasing cash inflows
  • Reducing cash outflows

Examples of answers:
Jacinta could increase her cash inflows by no longer offering trade credit terms for [...] all payments are received when the goods are released.

Jacinta could reduce her cash outflows by looking for cheaper utility suppliers, e.g. [...]

21. • Marks for this question: AO1 = 1; AO2 = 4
    • 1 mark for accurately stating the formula to be used
    • 4 marks for the calculation

Balance carried forward = (Total income – Total expenses) + Balance brought forwa[...]

	January £000	February £000
Total Income	A = 60 (1)	80
Total Expenses	70	B = 75 (1)
Balance brought forward	(11)	(21)
Balance carried forward	(21)	(16)

22. • Marks for this question: AO1 = 1; AO2 = 4
    • 1 mark for accurately stating the formula to be used
    • 4 marks for the calculation

Balance carried forward = (Total income – Total expenses) + Balance brought forwa[...]

	January £000	February £000
Total income	20	32
Total expenses	32	B = 40
Balance brought forward	(60)	A = (72)
Balance carried forward	A = (72)	(80)

23. • Marks for this question: AO2 = 3; AO3 = 6

Level	Description
0	No answer worthy of any marks
1	Elementary evaluation of theme/subject based [...] context • Elementary assessment with a con[...] or • Elementary analysis of m[...] o[...]ving a cash flow problem • Simple knowled[...] [...]standing is applied to the context
2	Good evalu[...] [...]e/subject based on the context [...] [...]sessment, with a conclusion, that is partially justified Methods of solving a cash flow problem are partially explored Applies some knowledge and understanding to the context
3	Thorough evaluation of theme/subject based on the context • Unbroken analysis and thought, which is coherent, appropriate and fully justified conclusion • Methods of solving a cash flow problem are completely analysed • Applies knowledge and understanding to the context appropriately

Points to apply, analyse, evaluate:

Application	An...
Reduced trade credit is likely to be unpopular with customers as it may create cash flow issues for them.	The business may los... trade credit, which m... worse as cash inflows... may offer trade credi... become uncompetiti...
Bank overdrafts are likely to be expensive due to relatively high interest rates payable. The overdraft facility may not be agreed for the business. Reducing trade credit for customers will not cost the business anything.	The business may not... expenses, which will ... problems. There is no actual cos... ...ade credit offered t... reduce if customers a... business/custom to a...
The overdraft is repayable on ... ...erefore, the business may find its... ...ash flow problems if the ban... ...de... ...the overdraft.	If the bank suddenly ... the business may find...
If app... ...he overdraft will enable the business to instan... ...fit. Reducing trade credit for customers may take more time to introduce, as customers need to be given notice of a change in the terms by which they purchase from the business.	The overdraft will off... Reducing trade credit... to maintain positive c... required to give notic... their terms of busine...
Reducing trade credit for customers may signal that the business is experiencing cash flow problems.	The business may los... reputation, which ma... worse as cash inflows...

24. • Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of the two reasons why the bank manager has aske... • Elementary knowledge and understanding of the two reasons why t... asked to see a cash flow forecast
2	Some analysis of themes/subject based on the context • Partial analysis of the two reasons why the bank manager has asked ... • Applies some knowledge and understanding of the two reasons wh... asked to see a cash flow forecast
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to compete as a result of the two ... manager has asked to see a cash flow forecast is analysed appropri... • Applies comprehensive knowledge and und... ...nding of two reaso... has asked to see a cash flow foreca...

Indicative content
• Cash flow forecast sho... ...ie a ...u...t of cash that is predicted to be within th...
• Cash is essentia... ...ss to survive as without it the business cannot pay its b...

Analys...
• Th... ...manager may have asked for the business plan to support a loan app... that Neil can repay any money lent, otherwise the bank will lose the money th...
• The bank manager may have asked for the business plan to see how the busin... coming year. What sales and expenses are predicted? Are Neil's projections ...

Example of a developed response:
The bank manager may have asked for the business plan to support a loan applicati...
Neil can repay any money lent (1), otherwise the bank will lose the money that it ha...
money to businesses that they know are able to repay the funds (1).

25. • Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of the two reasons why cash flow forecasting is usef⦿ • Elementary knowledge and understanding of the two reasons why ⦿ useful when operating a business
2	Some analysis of themes/subject based on the context • Partial analysis of the two reasons why cash flow forecasting is useful ⦿ • Applies some knowledge and understanding of the two reasons wh⦿ useful when operating a business
3	Comprehensive analysis of themes/subject base⦿ the context • Impact on business and its ability t⦿ ⦿ e a⦿a result of the two ⦿ forecasting is useful when ⦿ ⦿at⦿ ⦿usiness • Applies compreh⦿ ⦿ ⦿ ⦿ ⦿dge and understanding of the two re⦿ forecasti⦿ ⦿ ⦿f⦿ ⦿ ⦿en operating a business

Indicat⦿ ⦿en
- Pr⦿⦿ a cash flow forecast encourages Neil to plan his financial/cash inflo⦿
- It can help with decision-making as he can see what he can/cannot afford.
- It may support a loan application.
- It can be used to monitor business performance as Neil can compare actual ca⦿
- He can identify any months when he might have a negative cash flow and tak⦿

Analysis
- Any decisions that Neil makes are better informed, and, therefore, more likel⦿ supported by the data from a cash flow forecast.
- Neil is more likely to successfully apply for a bank loan with the support of a c⦿ prove that he is able to repay the funds. The bank is more likely to lend funds⦿ to repay.
- The cash flow forecast can be used to help Neil to monitor the performance o⦿ actual performance with his predictions and, therefore, make any changes as ⦿ thinks that he may not perform as expected.

Example of a developed response:
The cash flow forecast can help Neil to make informed business decisions which are m⦿ refer to the data in the cash flow forecast before making a decision which involves spe⦿ to have the cash to do so (1). It will prevent him from spending more than he is likely t⦿

26. • Marks for this question: AO2 = 2; AO3 = 1

Indicative content
- A cash flow forecast is constructed using predict⦿ ⦿ ⦿r⦿ ation. The predictio⦿
- The cash flow forecast does not take ac⦿u⦿ ⦿of ⦿ ⦿xpected events and exter⦿

Analysis
- As the cash f⦿⦿ ⦿a⦿ ⦿rmation is predicted, it may not be correct. This⦿ fo⦿⦿ ⦿or ⦿ ⦿⦿if he makes decisions based on the information which the⦿ m⦿ ⦿ ⦿ofitable decisions for his business.
- The ⦿redictions are likely to be less accurate if Neil is inexperienced and/or th⦿ to consider when forecasting.
- Many external factors may arise which could not be predicted and lead to the⦿ new competitors.

27. • Marks for this question: AO2 = 3; AO3 = 6

Level	Description
0	No answer worthy of any marks
1	Elementary evaluation of theme/subject based on the context • Elementary assessment with a conclusion • Elementary analysis of ways to solve a cash flow problem • Simple knowledge and understanding is applied to the context
2	Good evaluation of theme/subject based on the context • A sound assessment, with conclusion, that is partially justified • Ways to solve a cash flow problem are partially explored • Applies some knowledge and understanding to the context
3	Thorough evaluation of theme/subject based on the context • Unbroken analysis and thought, which is coherent, appropriate and fully justified conclusion • The benefits of ways to solve a cash flow problem are completely an • Applies knowledge and understanding to the context appropriately

Points to discuss, analyse, evaluate:

Application	An
Increasing the trade credit taken from suppliers is an instant and free method to improve the cash flow of the business.	The extra trade credit supplier approves the to request that the bu No fees or interest pa the trade credit. The from an instant cash f
Trade credit is limited to the number of days that the supplier allows. It is not a long-term source of credit.	The supplier may not may only be able to a instance. After the sp will have to pay for its short-term source of
Taking additional trade credit may damage the relationship between the business and the supplier, as the business is passing the cash flow problem to the supplier.	By extending the trad its cash flow issues to have to wait 60 days t experience problems supplies/expenses. A to offer extended tra refuse to supply to th extended trade credit that the business is h
When taking trade credit, the business may lose out on prompt payment discounts.	Often discounts are o businesses to pay for appreciate that the b they then have the bills and expenses.
An overdraft needs to be arranged before it can be used. This can take time and involve the completion of a number of forms.	An overdraft need to time. The overdraft is even if granted, the o short notice.
An overdraft may involve the payment of fees and interest on the amount borrowed.	An overdraft is a relativ involves the payment c

28. McGovern's Garage – Cash Flow Forecast

	May
Cash inflows	
Repair sales	£9,000
Car sales	£2,000
Total cash inflows	£11,000
Cash outflows	
Materials	£2,250
Car purchases	£3,500
Rent	£2,000
Wages	£2,500
Electricity	£150
Advertising	£500
Other expenses	£500
Total cash outflows	£11,400
Opening balance	£800
Net cash flow	-£400
Closing balance	£400

1 mark each:
- June total cash inflows £15,000
- June total cash outflows £12,550
- May closing balance £400
- June opening balance £400
- June net cash flow £2,450
- June closing balance £2,850

Total of 6 marks available

29.
- Marks for this question: AO2 = 3; AO3 = 3

Level	Description
0	No answer worthy of any marks
1	Elementary analysis of themes/subject based on the context • Elementary analysis of whether any action may be required regarding • Elementary knowledge and understanding of whether any action ma predicted cash flow.
2	Some analysis of themes/subject based on the context • Partial analysis of whether any action may be required regarding its • Applies some knowledge and understanding of whether any action n its predicted cash flow.
3	Comprehensive analysis of themes/subject based on the context • Impact on business arising from any action may be required regardir analysed appropriately. • Applies comprehensive knowledge and understanding of whether an regarding its predicted cash flow.

Possible answers.
The cash position of the business is forecast to be positive for both May and June. to pay the anticipated bills.

The cash balance is expected to increase by over £2,000. If it is not needed for the it may be wise for the owner to transfer some of it to an interest-bearing account s used. In a current account the rate of interest will be low, but a higher rate may be requirements is moved to a preferable account.

30. a)

	Quarter 1
Cash inflows	
Repair sales	£1,300
Electrical sales	£6,500
Total cash inflows	**£7,800**
Cash outflows	
Stock	£5,175
Labour	£2,440
Rent	£1,200
Utilities	£525
Telephone	£210
Total cash outflows	**£9,550**
Opening balance	£1,125
Net cash flow	**-£1,750**
Closing balance	**-£625**

- [No] marks for data correctly allocated in cash flow forecast
- [mark] for each correct calculation/answer (in bold) up to 9 marks maxim[um]

Total of 9 marks available

b) • Marks for this question: AO2 = 3; AO3 = 6

Level	Description
0	No answer worthy of any marks
1	Elementary evaluation of theme/subject based on the context • Elementary assessment with a conclusion • Elementary analysis of ways to solve a cash flow problem • Simple knowledge and understanding is applied to the context
2	Good evaluation of theme/subject based on the context • A sound assessment, with a conclusion, that is partially justified • Ways to solve a cash flow problem are partially explored • Applies some knowledge and understanding to the context
3	Thorough evaluation of theme/subject based on the context • Unbroken analysis and thought, which is coherent, appropriate [and] a fully justified conclusion • The benefits of ways to solve a cash flow problem are complete[ly] • Applies knowledge and understanding to the context appropria[tely]

Possible answers:
- Alerts the business to future cash flow prob[lems]
- Evidence to support loan/overdraft ap[plicati]ons
- Assists the business to ensur[e suffici]ent cash is available to meet paymen[ts]
- Assists the busine[ss to] pl[an for] positive cash balances that could be used [in]
  high inter[est or s]avings accounts
- [Tim]e-c[onsumin]g
- [May b]e inaccurate due to the experience of an owner, especially in new b[usiness]

Multiple-choice questions
Total for this section: 15 marks

Question number	Answer
1	A
2	B
3	C
4	D
5	C
6	C
7	D
8	A
9	C
10	A
11	D
12	D
13	C
14	D
15	B

Questions 1 to 15 = AO1 × 1
(1 mark for each correct answer)

Short-/long-response questions

16. • 1 mark for each correct answer up to a maximum of 2 marks

    The year of the lowest level of unemployment was 2017 (1)
    The year of the highest level of unemployment was 2011 (1)

17. • 1 mark for the correct answer

    Whizz Whites (1)

18. • 2 marks for the correct answer with the correct unit identified

    5 units (2)

19. • 1 mark for the correct answer

    Firm C (1)

20. • 1 mark for identifying the correct bestselling product
    • 1 mark for calculating one third of the sales of the bestselling product
    • 1 mark for identifying the correct product

    The bestselling product is Product D (1)
    1/3 is £32 sales revenue (1)
    Product B has £32 sales revenue (1)

21. • Marks for this question: AO2 = 2
    • 1 mark for calculating the total sales in the market
    • 1 mark for calculating the % market share of Firm T

    Total value of the market = £10,000 + £15,000 + £30,000 + £50,000 + £5,000 + £40,0
    Sales revenue for Firm T / Total value of the market × 100
    £30,000 / £150,000 × 100 = 20% (1) (OFR)

22. • Marks for this question: AO1 = 1; AO2 = 1

    Total revenue = £400 + £350 + £600 = £1,350 (1)
    Average revenue = £1,350 / 3 = £450 (1) (OFR)