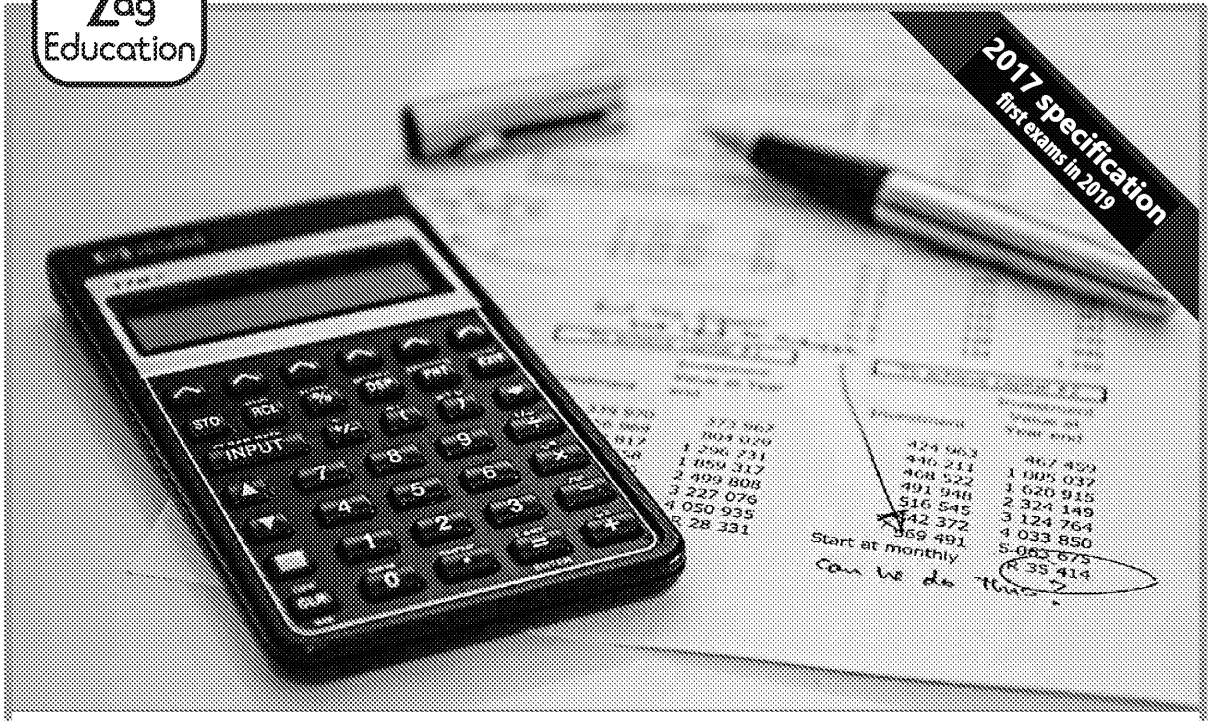
Zig Zag Education

Business

GCSE (9–1) | Edexcel | 1BS0



Quantitative Skills Workbook

for GCSE 9–1 Edexcel Business

Update v1.1, January 2022

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Contents

TEACHER'S INTRODUCTION

As part of its reform of all GCSE subjects, the Department for Education (DfE) required all awarding bodies to revise their GCSE Business specifications ready for first teaching from September 2017 with first exams from 2019 onwards with the new 9–1 system of grading. All GCSE Business qualifications now follow a linear model of assessment whereby students sit both exams in the summer of their final year of study (Year 11). There is no coursework element.

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

This resource is written to meet the needs of students preparing to sit GCSE Business exams with Pearson Edexcel. It is designed to help your students master the vital quantitative skills.

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 and it is essential to prepare candidates 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.

What topics could assess quantitative skills?
Mathematical skills are an important part of the GCSE Business specification. The questions set to test candidates' quantitative skills will assess the ability to process and analyse numerical data relating to a business situation. Some questions may ask candidates to perform a calculation, whereas other questions could require learners to use mathematical skills to make, and justify, business decisions supported by quantitative and qualitative data. A minimum of 10% of total marks across the qualification involve the use of quantitative skills.

Generally, the minimum level of mathematics required for GCSE Business will be equivalent to Key Stage 3 mathematics.

The following table shows the quantitative skill topics covered by the Pearson Edexcel specification. Questions involving such skills will be presented within a business context.

	Pearson Edexcel
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 quantitative data to help them make and justify business decisions from sources such as:	
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 author of this resource has a number of years' experience of teaching Business Studies for a range of qualifications from level 2 to level 7. The author is also an examiner for a major awarding body for GCSE and A Level Business Studies.

Using this resource

This resource can be used in a number of ways to help students to prepare for th
independently by students or as a teacher-led exercise. Here are a few suggestio

Homework: The questions could be completed by students as homework tasks. S
two sections to complete in the run-up to the exam, or alternatively the question
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 com
conditions as the individual questions are based on the format of the final exams
areas that they specifically wish to test and/or topics that they have already cove
through the course. There is a mark scheme and suggested answers to accompa
exam will then enable teachers to pinpoint the topics that students find challeng
/ time management and tailor any interventions / activities appropriately. The ben
produce mock exams is that the mark schemes are not in the public domain (unli
produced by the exam boards, which are posted on their website) so they give te
students performance when attempting an unseen paper.

In-class learning: The questions could be 'walked through' in their entirety or div
students guidance related to the requirements of an exam. Using the mark sche
learners of how marks are awarded and the difference between the levels on the

Exam technique: The questions can be used to help students of all levels to enha
can become familiar with what is required from an 'identify', 'calculate' and 'ana
of the detail expected for each level of response. Students could complete a ran
mark their responses to the practice questions to give them the opportunity to 'l

Revision: When the learners are approaching their final exams, a topic could be
This technique may be particularly appropriate for over a holiday period, e.g. Eas
students return from their holiday, the teacher can mark the questions and also
students so they can see how their responses compare.

Update v1.1, January 2022

Section 6 – Average rate of return (ARR): Multiple Choice Questions – Missing multiple choice question 5 added;
numbering corrected (pp. 36–39)

FORMULAE

Appendix 3 of the Pearson Edexcel specification details all of the formulae that st
during their examination. No formulae are given within the exam paper so candi
prior to their exam. Calculators can be used by students when sitting the two Pe
centres are advised to consult appendix 4 of the Pearson Edexcel GCSE (9–1) Bus
about the requirements relating to permitted calculators.

Average rate of return	$Average\ rate\ of\ return\ (\%) = \frac{average\ annual\ profi}{cost\ of\ inves}$
	Aver... profit $\frac{Total\ p}{Number\ o}$
Break even	$Break\text{-}even\ point\ in\ units = \frac{fixed\ c}{(sales\ price\ -\ v}$
Gross profit	$Gross\ profit = sales\ revenue - cost\ o$
Gross profit margin	$Gross\ profit\ margin\ (\%) = \frac{gross\ profi}{sales\ reven}$
Interest (on loans)	$Interest\ (on\ loans)\ in\ \% = \frac{total\ repayment - borr}{borrowed\ amo}$
Margin of safety	$Margin\ of\ safety = actual\ or\ budgeted\ sales -$
Net cash flow	$Net\ cash\ flow = cash\ inflows - cash\ outflows\ i$
Net profit	$Net\ profit = gross\ profit - other\ operating\ exp$
Net profit margin	$Net\ profit\ margin\ (\%) = \frac{net\ profit}{sales\ revenu}$
Opening and closing balances	$Opening\ balance = closing\ balance\ of\ the\ pr$ $Closing\ balance = opening\ balance + net$
Revenue	$Revenue = s...g\ price \times quantity$
Total costs	$TC\ (total\ co...\ TFC\ (total\ fixed\ costs) + TVC\ ($

COMMAND WORDS

The following table outlines some of the commonly used command words for the qu

Command word	Overview
Analyse	Students explore a business concept/idea, developing and e context given in the question. The results from quantitative support an analysis.
Calculate	Complete a numerical calculation to work out an answer to avoid simply giving the answer to 'calculation' questions bec if the final answer is wrong. The examiner is able to award m if the final answer is wrong.
Discuss	Set out fundamental points to outline a term.
Evaluate	Make a judgement based on the information available with drawbacks of the option(s).
Explain	Give a fact with two developed expansion points. There is n
Identify	Students are required to extract the correct answer from data or table; or extract the correct answer from theory that they l
Justify/ Recommend	Using business knowledge, students write an extended answ two options given to a business.
Outline	Give a summary or a framework of the steps to take.
State	Express in clear and concise terms.

ASSESSMENT OBJECTIVES

Assessment objectives (AOs) are set by Ofqual and are the same for all exam boa qualifications. Please note that the weightings differ for Paper 1 and Paper 2 so advised to refer to the Pearson Edexcel 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 question asked and at best may lead to poorly structured res
often helps to improve the quality of answers composed; however, it is importan
which may starve candidates of time to actually write their answer.

Candidates should spend a few minutes planning their answer. They could use a
point list which outlines the basic structure and key points. If time is planned we
at the end to check over answers, which is good practice, especially for quantitat

Candidates are 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 questio

Candidates should also present their answers generally to one or two decimal pla
/ examinat[illegible]rd instructs otherwise). It is, therefore, advisable to practise ro
appropriate [illegible]ractise 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 B 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 demonstrated 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.

$$Per... = \frac{...umber\ to\ express\ as\ a\ percentage}{Total\ number\ of\ the\ whole} \times 1$$

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 d question indicates 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 Percentage changes are a way of putting the amount of an increase / a reduction comparing the difference to the original value. For insta..., the price of a lapto a sale the retailer reduced the price to £525. This is a re...uction of £74 (£599 – £5 percentage reduction in price you must ... the value of the reduction (£74) price (£599).

To work ou... er ...ge change you should divide the difference in the values increase/de... by the 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.

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

In the example of the laptop price reduction:

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

= 12.35% reduction

Percentage increase

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 sell

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

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

In the example of the sofa price rise:

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

= 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 to

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 her fare is a rate 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?

Figure 1

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

   (1 mark)

4. New Build Constr
   £378,678 in 2017
   percentage chang
   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 cha
   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. £13,800
   B.
   C.
   D. £13,800

(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

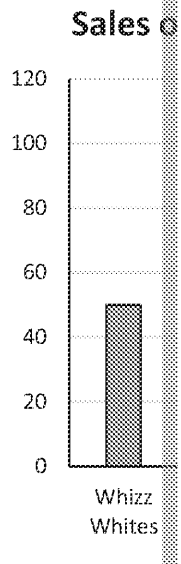
(1 mark)

13. Callum achieved 55 out of a possible 80 marks for his Business Studies project. What percentage did he achieve?
   A. 55%
   B. 60.5%
   C. 68.8%
   D. 80%

(1 mark)

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

15. Pati's shop sells
Figure 2 shows t
washing powde
total 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 perce
work part-time? Show all workings. Give your answer to one decimal place

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 chieved in 2017? S
answer to the nearest whole pound.

19. The population of A nged from 547,200 to 673,563 during a five-
percenta cha 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 8
Show all workings. Give your answer to the nearest penny (p).

22. Employees receive a 15% discount on purchases from the company shop. Th
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 m d count each emplo
the business of discounts last week. Show y ur kings and answer to two

23. Elsie receives £8 r nd a commission of 10% of sales. Last week she
worth ds. alculate 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[illegible] Grommets. 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 numbe
several ways to calculate the 'average', e.g. mode, median and mean. For GCSE B
the method commonly referred to as the 'mean'.

To calculate the average within a GCSE Business exam, you should add up all of th
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 comparisons to be made between d
enable data sets to be put into context by reducing the impact of any abnormally

Worked Example

Suki is a mechanic and has recorded the number of MOTs that she has carried out fo
four month

Month	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 s

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

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

$$Average\ number\ of\ MOTs\ per\ month = 30$$

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 to

Worked Example

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

Student	Mark in test
Harry	45
Chloe	36
Jayden	?

Unfortunately, the teacher returned the test paper to Jayden before making a no
know that the average mark in the test was 40. Calculate the mark that Jayden a

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

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 awarde

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 pound?

January	£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 should she then divide this number by?
   A.
   B. 1
   C. 30
   D. 40

   (1 mark)

5. The average price
   café is £3.59. Th
   varieties. If the
   are £2.55, £3.50
   the fifth type of
   A. £2.55
   B. £3.48
   C. £4.00
   D. £4.30

6. The electricity co
   business are sho
   electricity cost p
   nearest whole p

January	
February	
March	
April	
May	

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

7. A supermarket is
   each month. Th
   over the past six
   store receive a b
   score over the si
   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 employ
      months onl
   D. The employ
      months onl

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?

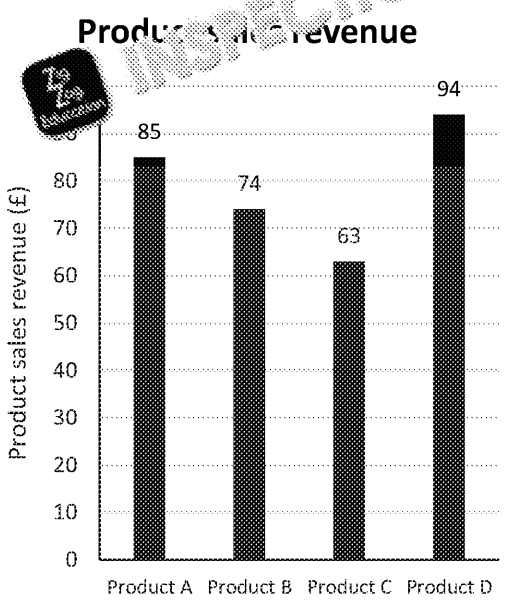


Figure 3

   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 are the quotes:
   - Quote 1 – £1,500
   - Quote 2 – £[illegible]
   - [illegible] – £1,225
   - [illegible] – £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 [illegible] the table below [illegible] what is the price

Paint	
Economy	
Standard	
Quality	
Premier	

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

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

13. Four customers [illegible] records the amo[illegible] over the average

Customer 1	
Customer 2	
Customer 3	
Customer 4	

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

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

15. The average pri[illegible] £1.50. The shop [illegible] the prices of thr[illegible] and £1.55, how [illegible]
   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 the m[illegible]er records the amount that they
closest to the average spe[illegible] Show all workings.

Custo[illegible]	[illegible]37
Custo[illegible]	£3.48
Customer 3	£2.80
Customer 4	£1.20

18. The average price of a digital camera sold by an e-commerce business is £12
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	2[illegible]
June	£180	[illegible]74

Calculate the average [illegible]t over the three-month period. Show your
decimal p[illegible]s.

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 sales for four employees is £510, calculate the value of sales ge

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

SECTION 3 – REVENUES, COSTS AND PR

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 goods o
called 'turnover', 'sales revenue' or 'sales'. However, the Pearson Edexcel specifica

revenue = selling price per unit × quantity sold

Cost is the amount paid by a business for the materials/services used in the prov
manufacturing of its goods. Costs are sometimes referred to as 'expenses', 'ope
costs'. However, the Pearson Edexcel specification specifies 'costs'.

Fixed costs are costs that do not change with the level of ...ut. The business h
number of goods or services made or sold. These are also known as overheads o
business has to pay the same rent for its fa... it makes 10 bars of soap or 10

...otal fixed costs = all fixed costs added together

Variable co... c... change with the level of output. If output increases
increase, w... output decreases the total variable costs will decrease. These a
e.g. a soap b... ess will need to buy more raw materials to make 100 bars of soa
soap. Variable costs usually vary in direct proportion to changes in the level of ou

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 Profit and Loss Account
Statement). This account covers a specific trading period (typically one year) and
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
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 = ... 350 bars of soap
= £1,575

Sally's fixed co... a... ... rent = £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 m sales 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 sales revenue?
   A. Reduce
   B. Increase
   C. Stay the same
   D. Break-even

   (1 mark)

5. Identify two sources of revenue. Please select **two** answers.
   A. Sales of services to customers
   B. Rent paid for office premises
   C. Rent received from a tenant
   D. Postage paid
   E. Interest paid on a loan

   (2 marks)

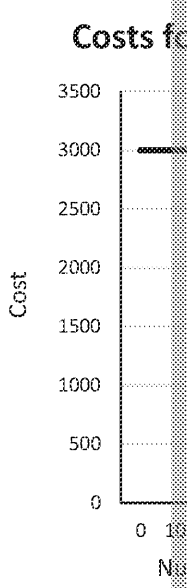
6. Profit i
   A. I nd coins held in a business
   B. N ber of items sold × price per item
   C. Costs of running the business minus sales revenue
   D. Sales revenue minus costs of running the business

   (1 mark)

7. How much sales shop that sells f
   A. £279.96
   B. £2,056
   C. £2,097
   D. £2,796

8. If sales revenue £20,000, what w
   A. Make a loss
   B. Make a pro
   C. Break even
   D. Go bankru

9. Which of the fol shown in Figure



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

10. A garage charge many cars are w revenue is £117
    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 sales 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 at a fair, what are the total variable costs?
    A. £27
    B. £2,527
    C. £2,700
    D. £2,7

(1 mark)

13. If sales revenue is £120,000 and total costs are £200,000, what will the business do?
    A. Make a loss
    B. Make a profit
    C. Break even
    D. Make a charity donation

(1 mark)

14. Which of these actions would provide 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)

SHORT-/LONG-RESPONSE QUESTIONS

15. If a website generates sales revenue of £350 from selling 250 notebooks, ho
its customers to buy on average? Show all workings. Give your answer to t

16. If TipToes shoe shop sells 15 pairs of sandals priced at £19.99, how much sa
all workings. Give your answer to the nearest whole penny (p).

17. How much sales revenue is generated by a sandwich shop that sells the follo
    - 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 penny (p).

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

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

20. Chirpy bird seed bars cost 99p. A pet store decides to increase the price by 7
all workings. Give your answer to the nearest penny (p).

21. A business makes a profit of £300,000 from £435,500 sales revenue. Calcula
workings. Give your answer to the nearest whole pound.

22. A business plots its sales volumes for the four months leading up to Christma
product is £4. Using the information in Figure 5, calculate the sales revenue
month period. You are advised to show your workings.

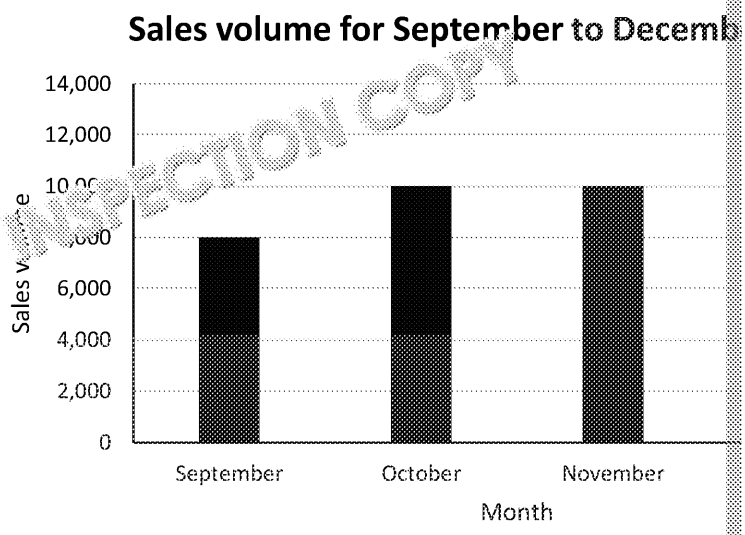


Figure 5

23. 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 ma
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 week. Show all workings. Give your answ

24. Amy o[illegible] coffee shop. On average she sells 1,367 coffees per month. She
of £2.8[illegible]up. Calculate Amy's monthly total revenue. Show all workings
nearest whole pound.

25. 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.

26. 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.

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

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

SECTION 4 – BREAK-EVEN

The point at which a business's total costs of production are equal to its total sal
even point / break-even level of output. The break-even point is very important
the business will not make a profit or a loss.

Here is the formula to work out the break-even level of output:

$$Break\text{-}even\ level\ of\ output = \frac{Fixed\ costs}{Selling\ price\ per\ unit - Vari}$$

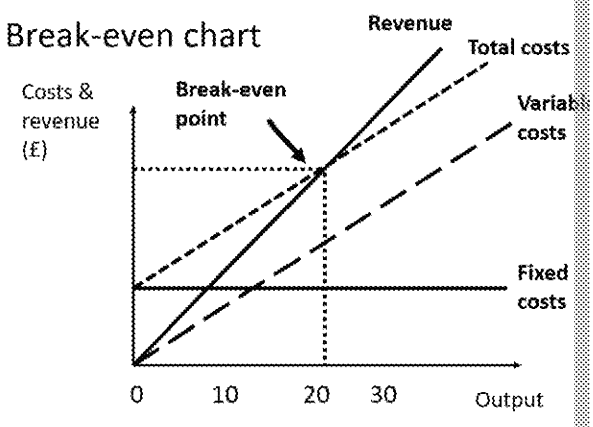
The 'selling price per unit – variable cost per unit' is also known as the contributi
formula is simplified as shown below. It does not matter how the formula is exp
same. It is just two different ways of expressing the s

$$Break\text{-}even\ level\ of\ output = \frac{Fixed\ costs}{Contribution\ per}$$

Contribution = Selling price per unit – Variable cost per unit

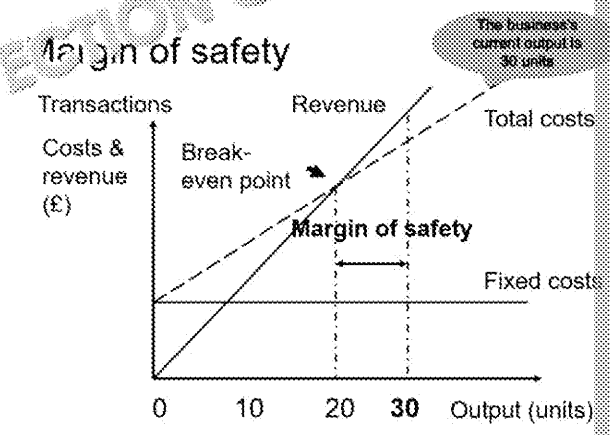
Contributio s to the contribution towards paying off all of the fixed costs.
exceeds the variable cost per unit can be used to pay off all of the fixed costs. Th
the fixed costs are fully covered by the contribution. All contribution after the b
represents profit for the business as all costs (variable and fixed) are covered.

Break-even data is often plotted onto a break-even chart (also commonly referred
break-even point is shown on the graph/chart at the point where the Total Cost lin



The margin of safety is the number of units between the break-even level of out
sales/production. It expresses the amount of profit or loss in terms of units. In t
business's current level of output is 30 units and the break-even point is 20 units
margin of safety of 10 units.

Margin of safety = Current level of output – Break-even lev



Break-even charts are often required by lenders to decide whether to lend funds manager can see the margin of safety, i.e. the number of units beyond the break aims to sell. This gives the bank manager an idea of how 'safe' the business's pro margin of safety, generally the less risk that the business will not make a profit. buffer/shield between the break-even point and 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 scented candles. The average price of a incurs the following costs to run the busines:

- Rent £1200 per m
- Business rates £30
- Staff sala 0 per month

Rent, busine tes and staff salaries are all fixed costs.

She also incurs variable costs of £2.20 per candle. Variable costs include all mate packaging.

Contribution per unit = Selling price per unit – Variable cost per unit
Contribution per unit = £6.99 – £2.20
Contribution per unit = £4.79 per candle

Desiree's fixed costs total £6,500 per month.

$$\text{Break-even level of output} = \frac{Fixed\ costs}{Contribution\ per}$$

$$\text{Break-even level of output} = \frac{£6{,}500}{£4.79}$$

To break even, Desiree, therefore, needs to sell 1,357 candles per month (correc

Desiree makes and sells 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 is the correct term for when the business's costs are equal to its sales revenue?
   A. Profit
   B. Loss
   C. Break-even
   D. Turnover

   (1 mark)

2. Herbi runs a taxi business. Her fixed costs are £6,000 per quarter. An average fare costs passengers £15. Her variable costs for an avera journey is £6. How many passengers do Herbi need to serve each year to brea en
   A. 667
   B. 1,333
   C.
   D. 2

   (1 mark)

3. Which of the following does 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 n dress shop has fixed costs of £35,00 Each prom dress sells for an average of £120 each. What are the variable costs per dress if her break-even output is 350 dresses?
   A. £10
   B. £20
   C. £40
   D. £50

   (1 mark)

7. Which of the foll categorised as f
   A. Profit
   B. Total cost
   C. Fixed cost
   D. Variable co

8. Which of the foll 'Total Costs'?
   A. Fixed Costs
   B. Sales Reven
   C. Fixed Costs
   D. Fixed Costs

9. Which of the foll cost for a shoe m
   A. Packaging m
   B. Raw materi
   C. Insurance
   D. Production

10. Which of the foll variable cost for
    A. Stationery
    B. Teachers' s
    C. Rent
    D. Insurance

11. Harrati makes te operation are £2 costs per teapot average of £12 e level of output?
    A. 1,250 teapo
    B. 1,667 teapo
    C. 2,500 teapo
    D. 5,000 teapo

12. What usually ha output if the sell by £1 (if all othe
    A. Break-even
    B. Break-even remain unc
    C. Break-even
    D. Break-even

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 [illegible] to be accurate

(1 mark)

15. Six Braddies are produced each month by a business. What is the name given to Area 1 on the break-even chart below?

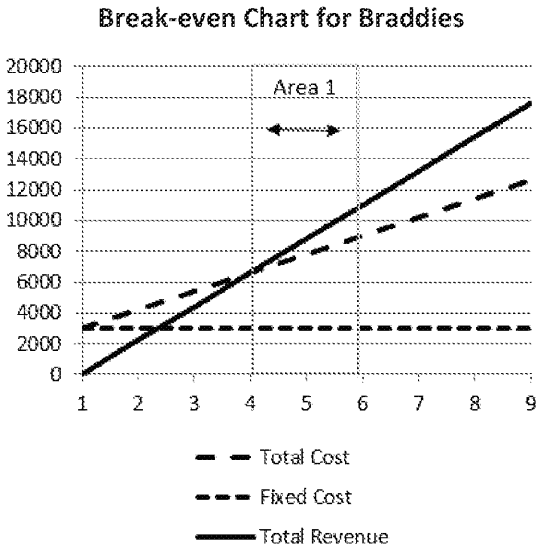


Figure 6

    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 outp
costs are £300 and her cushions sell for £5 each. Calculate the variable cost
Give your answer to the nearest whole penny (p).

18. Rhiannon's business makes fresh fruit bags for children's meals sold by a lea
calculated that her break-even output is 80,000 bag[illegible] year. Her fixed cos
costs are 10p per bag. Calculate the selling p[illegible] of [illegible]ch fresh fruit bag. She
answer to the nearest whole penny (p).

19. Brenda's [illegible]du[illegible],298 units and she knows that she needs to produce
What i[illegible]a'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 fixed costs are £75,000 and his variable co
If the average house sale earns him £1,250 in commission, how many house
break even? Show all working. Give your answer to the nearest whole unit.

22. Identify the labels for lines A, B and C on the break-even chart below.

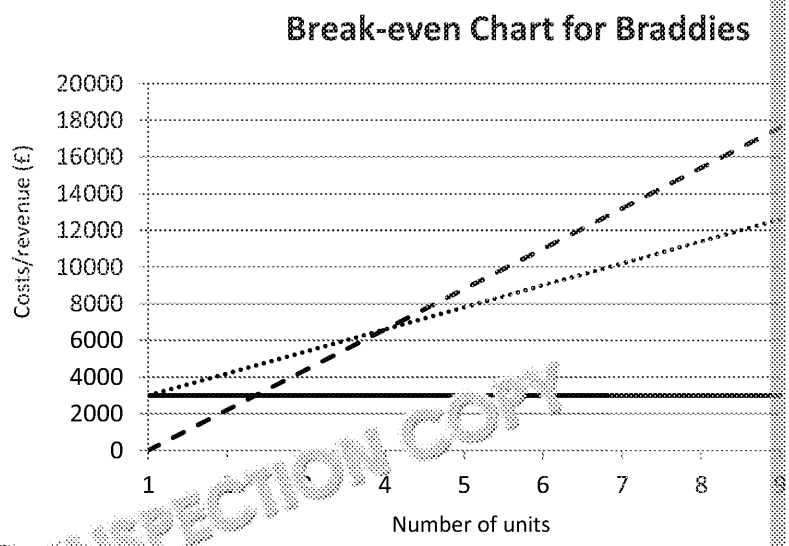


Figure 7

23. A business sells its products for £3.50 per unit and has variable costs of £1.2
fixed costs of £75,000 per year, and sells 40,000 units.

    Calculate the business's break-even point.

24. Calculate the amount of profit that the business made during the year.

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 him that break-even analysis is only of limited va

Analyse two limitations of Tarquin carrying out a br -even analysis.

SECTION 5 – GROSS PROFIT MARGIN AND NET PROFI

The success of a business can be measured in many ways including customer sati brand awareness, employee retention, etc. A common way to measure success i 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.

$$gross\ profit = revenue - cost\ of\ sales$$

Net profit – the net profit is the profit left after all expenses (sometimes known a deducted from revenue. It is gross profit less overheads, i.e. those costs that are production costs or provision of a service, e.g. rent, gas, electricity and market profit achieved overall 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 20 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 e 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 rival business for a specific p business is more efficient at managing its overheads, as a greater proportion of revenue. As ABC plc's net profit margin improved by £0.05 between 2019 and 20 business was more efficient at 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 is reflect the future. The business may analyse its profitability, but in future years th competitiveness of the market or economic conditions change. Decisions based o take a while to implement and by the time they are introduced the market may b 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 focus

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 repu suffer, resulting in the loss of customers. Sometimes cheaper raw materials standards as higher-priced alternatives, so there is a risk that the quality of th adversely affected.
- **Increase prices** – a higher price can increase profit margins, but this may be a strong loyalty towards the product and are likely to purchase from a rival p
- **Increase sales** – if the business sells more products its fixed costs will units, resulting in lower unit costs and higher profit margins. However, staff pressures 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 £1.5[illegible] each. How much sales revenue is earned?
   A. £50.00
   B. £54.20
   C. £57.00
   D. [illegible]

   (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 that its gross profit margin is 25%. Which of the following statements is true?
   A. 25% of 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 g
   owner of a busin
   A. Understand
   affects reve
   B. Understand
   the gross pr
   C. Understand
   revenue and
   D. Understand
   output chan

9. Which of the foll
   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 increases the price of materials by 20%. Which statement is true?
    A. Sales revenue will increase by 20%
    B. Operating expenses will increase by 20%
    C. The cost of sales will increase by 20%
    D. The cost of sales will increase by 120%

SHORT-/LONG-RESPONSE QUESTIONS

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 [illegible] and makes £15,500 gross profit.
margin. Show the calculation [illegible] use and all workings. Give your answ

20. Here is [illegible] extract 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 table

	£
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	
[illegible]ing	
Wages and salaries	
Net profit	

Table 2

	£
Sales revenue	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 tradi
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 perio
the gross profit margin formula used and show all workings.

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

		Year 2
Sales revenue	£31,000	
Cost of sales	£6,000	
(ro	£25,000	
Opera penses	i)	ii)
Net profit	£16,700	

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 operates
30%. Calculate the cost of goods sold for the fitted kitchen. Show all workin

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

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

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

Calculate the company's g 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 investme
decisions about machinery/equipment to purchase or whether to expand into a
calculating the average percentage annual return that an investment will genera
predicted life of the investment.

The 'rate of return' considers the amount that a business will receive when it mak
may invest their funds in a bank account, but it is not likely to generate a very hig

Often a business will have to choose between a couple of different investment o
should choose the investment with the highest ARR b e , will have the most

The calculation to find the ARR is as f ws

$$\text{ARR} = \frac{Average\ annual\ profit}{Cost\ of\ investment} \times 100$$

The calculation to find the average annual profit for the ARR formula is as follow

$$\text{Average annual profit} = \frac{Total\ profit}{Number\ of\ years}$$

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

Sometimes the average annual return/profit generated is not provided and need
calculated in the same way as any other average:

$$Average\ annual\ return/profit\ generated = \frac{Add\ up\ the\ total\ of\ al}{Numbe}$$

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
- 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 th

Worked Example

Cray runs a packaging company that produces packaging for the food industry. H
new machine that will enable him to expand into a range of biodegradable packa
different machines that would be suitable for his business. The cost of purchasin
that he predicts that he will earn from each machine are shown in the table belo

	Machine 1	Machine 2
Initial cost of the machine	£80,000	£110,000
Year 1 net profit	£15,000	£20,000
Year 2 net profit	£24,000	£26,000
Year 3 net profit	£30,000	£33,000
Year 4 net profit	£28,0[illegible]	£35,000

The initial step is to find the av[illegible]ge annual return/profit for each of the machin

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

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

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

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

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

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

	Machine 1	M
Initial cost of the machine	£80,000	
Average annual return	£24,250	
ARR calculation	$\frac{£24{,}250}{£80{,}000} \times 100$	$\frac{£28{,}500}{£110{,}000} \times 1$
ARR	30.3% (to one decimal place)	25.9% (to o
Should this machine be chosen?	Yes – it has the highest ARR	No – it has t

MULTIPLE-CHOICE QUESTIONS

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 ave
over its four-yea

Year 1 net pro
Year 2 net pro
Year 3 net pro
Year 4 net pro

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

6. A delivery van co
Parcels Ltd pred
return of £8,500
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 fol
the result of an
   A. Percentage
   B. Decimal
   C. Currency, e
   D. Times

9. Derek buys a new oven for his restaurant kitchen. The average annual return of the oven is estimated to be £800 per year over a 10-year period. The ARR is 16%. How much did Derek pay for the oven?
   A. £1,280
   B. £2,580
   C. £5,000
   D. £12,800

(1 mark)

10. Stacey's business project generates an annual return of £3,000 in Year 1, £4,500 in Year 2 and £2,000 in Year 3. The equipment for her project costs £8,000. What is the average annual return?
   A. £500
   B. £3
   C.
   D. £

(1 mark)

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 return 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 over 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 ave
Roberts Constru
over its three-ye
correct to the n

Initial cost of t
Year 1 net pro
Year 2 net pro
Year 3 net pro

   A. £266,750
   B. £355,667
   C. £359,398
   D. £363,129

15. Malcolm is com
Investment A ha
Investment B ha
investment sho
   A. Investmen
   B. Investmen
   C. Neither – i account an
   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 is thinking of expanding its factory to Madrid. After carry
marketing director has presented the following fi[illegible] the move. What
years? Show all workings.

Initial cost of the new fac[illegible]	£2,000,000
Year 1 net [illegible]	-£32,000
[illegible] profit	-£5,000
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 value of the average ann
life? Show all workings. Give your answer to the nearest whole pound.

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

21. Rhiannon is investing in a machine and is comparing three investments. Wh
based on the information below? Show all workings.

	Machine A	Machine B	Machine C
Initial cost of the machine	£40,000	£75,000	£20,0
Year 1 net profit	£3,000	£12,000	£1,0
Year 2 net profit	£7,000	£23,000	£4,0
Year 3 net profit	£15,000	£34,000	£5,5

22. A chocolate factory is consid[illegible]ng a new machine. Explain how ARR
decision-making pr[illegible] 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 save the business £450 per year in reduced maintenance bills.

    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
Income year 1	£9,500
Income year 2	£11,250
Income year 3	£12,000
Income 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 purc profit/return that she predicts each year. Both machines have a working life

	Machine A	Machine B
Cost of purchase	£40,000	£55,000
Year 1 – Profit	£10,000	£5,000
Year 2 – Profit	£20,000	£10,000
Year 3 – Profit	£15,000	£20,000
Year 4 – Profit	£10,000	£35,000
Year 5 – Profit	£5,000	£25,000

Calculate the average rate of return. State the formula used and show all w 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 a
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 business usually to pay bills.
- **Net cash flow** – difference between cash inflows and cash outflows.
- **Opening balance** – the amount of cash anticipated at the start of a period; the clo
- **Closing balance** – the amount of cash anticipated at the end of a period. A n
  indicates that the business will not have sufficient cash to meet expected payment
  flow in that 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 wil
always the case. Many businesses offer trade credit to their customers to genera
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 in
customer settles their debt.

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

A business may experience **cash flow problems** for the following reasons:

- Because it is 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 cas
  equipment, stock, hiring new staff, etc. However, the cash invested in this e
  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 allows
  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 g
  means to repay any loan provided.

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

- Tt is based on estimates; therefore, only as good as the estimates used.
- The production of a cash flow forecast can be complex and time-consuming
  more likely to have the resources to invest in this process.
- It cannot account for 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 flo
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 replacement	40
Total cash outflows	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

Add up all cash outflows t
100

The opening balance is the
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.
   B. tflow
   C. Opening balance
   D. Net cash flow

   (1 mark)

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

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

12. Which of the fol situation where enough cash to
    A. Insolvency
    B. Liquidity
    C. Trade credi
    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 product 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 her
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 his business. If the closing balance on
the opening balance for the 1st [illegible]?

18. Yvonne produced 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

Month 4

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

21. Comfluxy Ltd's finance director has produced a cash flow forecast as part of
application for a long-term bank loan. An extract is shown below.

	January £000	February £000	March £000
Cash inflow	A	80	C
Cash outflow	70	B	
Net cash flow			
Balance brought forward	(11)	(21)	
Balance carried forward	(21)	(16)	

Calculate the missing figures for A, B, C and D. State the formula used to ca
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	0	32	
Total expenses	32	40	
Balance brought forw	(60)	(72)	
Balance carri d	(72)	(80)	

Calcula 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 o 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 suffers a negative cash flow and March. She is consider ng the following two options to solve the cash fl
    - Increase the tr e taken from suppliers to allow her to pay for te d ra an the current 30 days from delivery
    - A n 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
Provide the missing figures for the following cash flow forecast for McGover

McGovern's Garage – Cash Flow Forecast

	May	
Cash inflows		
Repair sales	£9,000	
Car sales	£2,000	
Total cash inflows	£11,000	
Materials	£2,250	
Car purchases	£3,500	
Rent	£2,000	
Wages	£2,500	
Electricity	£150	
Advertisi	£500	
Othe se	£500	
Total utflows	£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

30. Majestic Electronics sells a range of electrical items including televisions, wash
well as providing a repair service. At the start of each year demand is usually
money available to spend due to increased costs over Christmas. The busines
balance next year of £1,125 with expected cash flows for the first two quarter

- 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

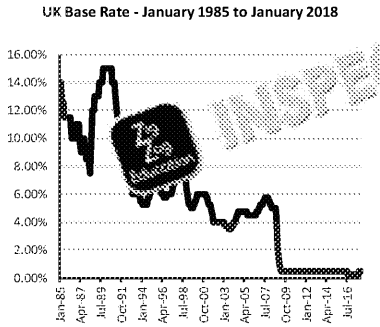
	Quarter 1	
Cash inflows		
Repair sales		
Electrical sales		
Total cash inflows		
Cash outflow		
S		
r		
Utilities		
Telephone		
Total cash outflows		
Opening balance		
Net cash flow		
Closing balance		

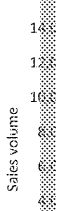
b) Discuss whether a small business owner should take the time to produce a c

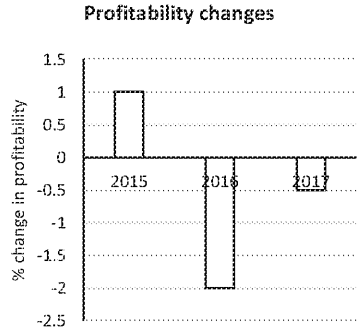
SECTION 8 – INTERPRETING INFORMATION FROM GR

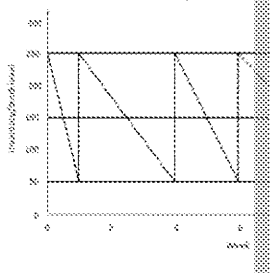
Students are required to interpret information from graphs and charts to answer
ask students to read directly from the graph or chart and/or use the data to perfo
The data could also be used by the student to justify an answer, e.g. the data cou
a business decision, especially for a higher-mark question.

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









The information within 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.

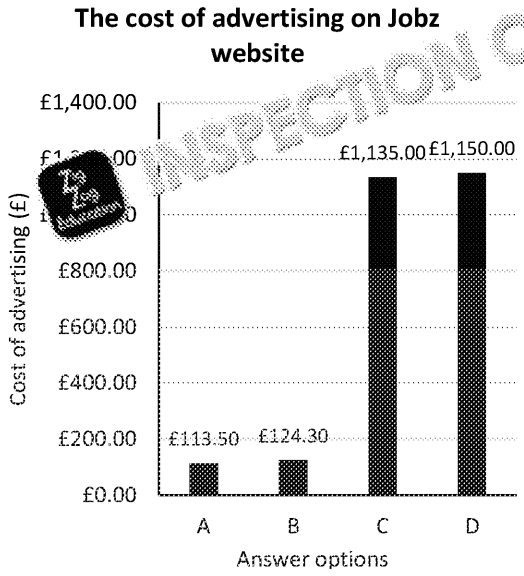


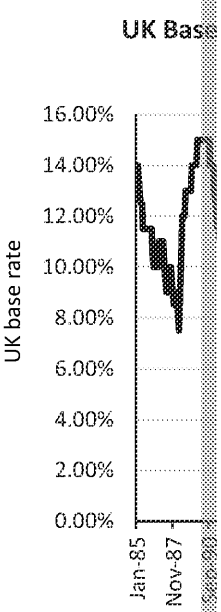
Figure 8

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 o
investigate how
the period Janua
plotted the data
(Figure 9) below



http://www.prop
s

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

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

3. The UK base rate
to the data in Oz
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. 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 a bar gate stock graph for Khaterah's business. When is stock automatically reordered by the business?

   A. 50
   B. 100
   C. 150
   D. 250

(1 mark)

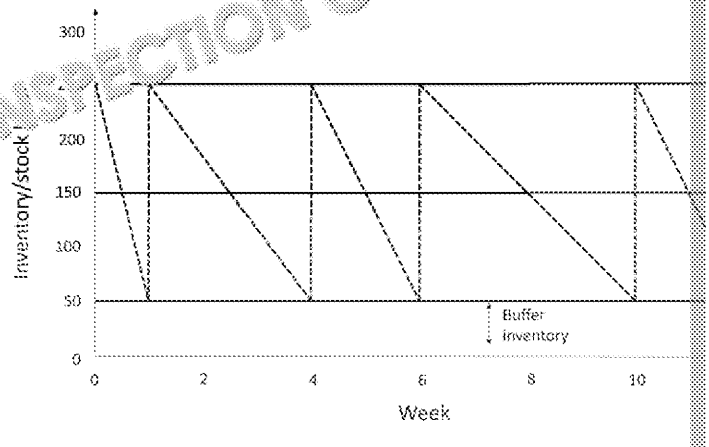


Figure 12

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	𝍸
Strawberry	𝍸 II
Vanilla	𝍸

A. 10 people
B. 8 people
C. [illegible]e
D. 4 [illegible]e

(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'.

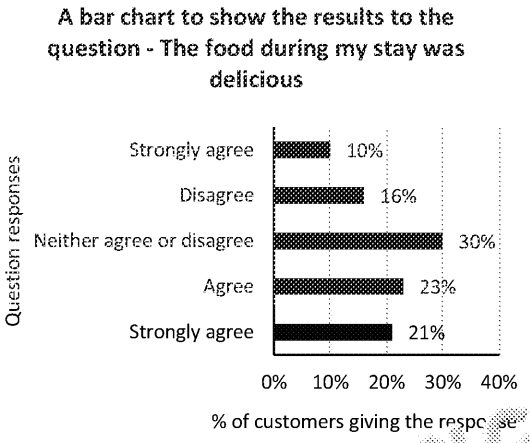


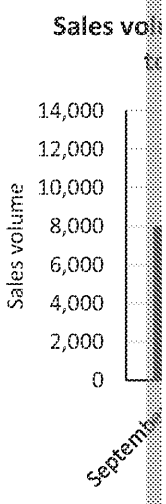
Figure [illegible]

What [illegible]ta[illegible] of customers gave a positive respon[illegible]hristian's question?

A. 16%
B. 23%
C. 26%
D. 30%

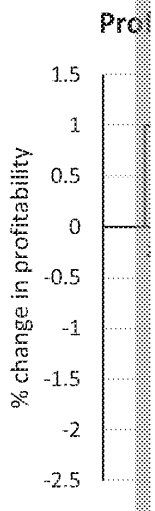
(1 mark)

10. Figure 14 show[illegible]
If the price of ea[illegible]
did the business



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

11. The annual profit[illegible]
Which of the four[illegible]
what happened to



A. Profitabilit[illegible]
B. Profitabilit[illegible]
C. The busine[illegible]
D. Profitabilit[illegible]

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?

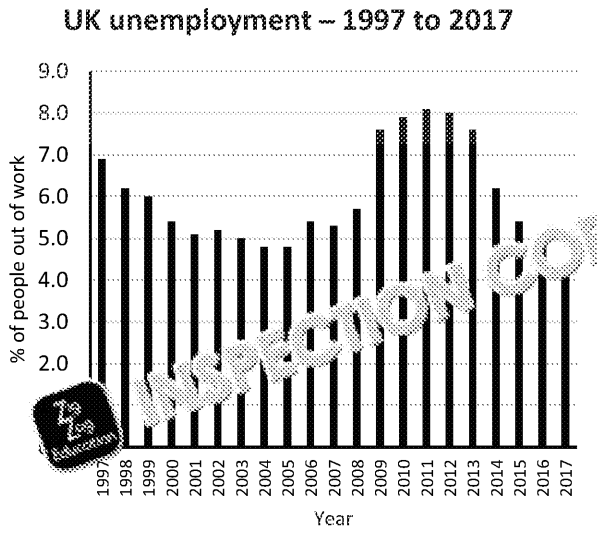


Figure 16

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?

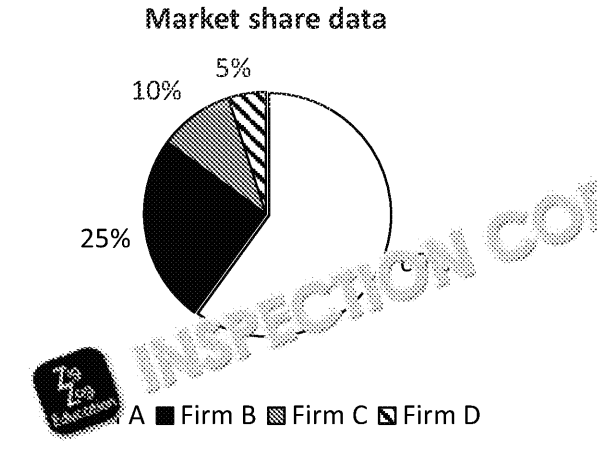
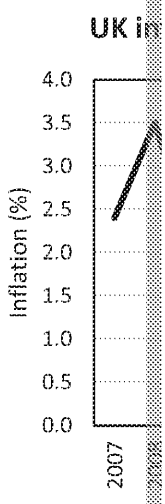


Figure 17

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

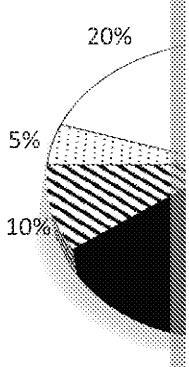
(1 mark)

14. Figure 18 show
period from 20
inflation at its



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

15. Five firms ope
Figure 19. If th
market is £45,0
quarter share



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

SHORT-/LONG-RESPONSE QUESTIONS

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

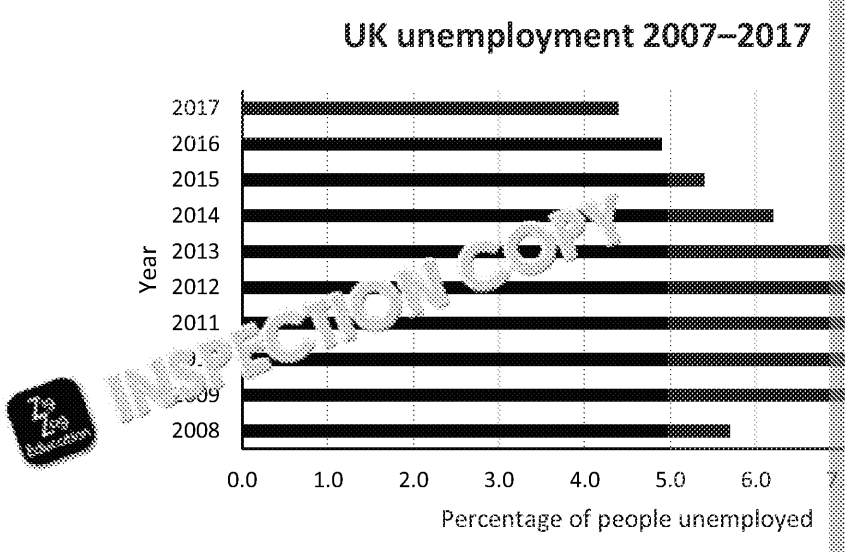


Figure 20

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

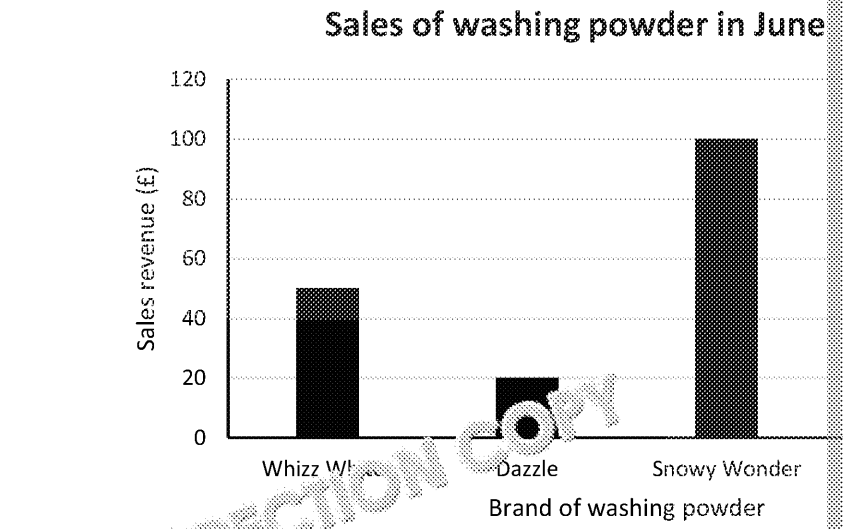


Figure 21

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

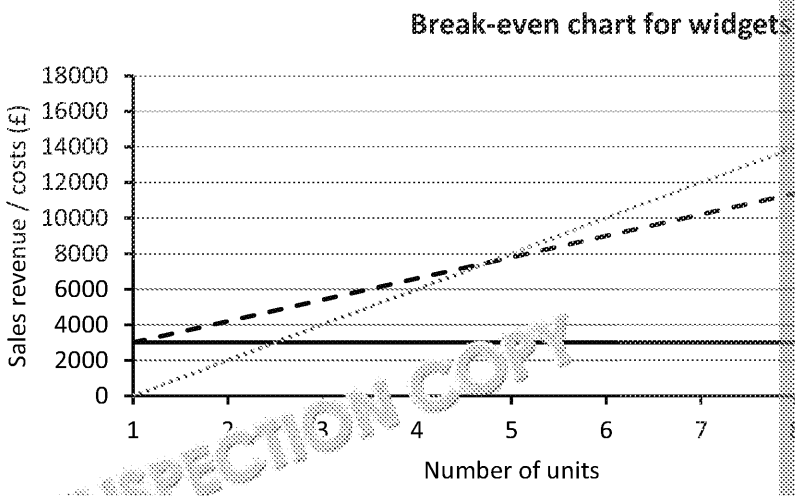


Figure 22

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

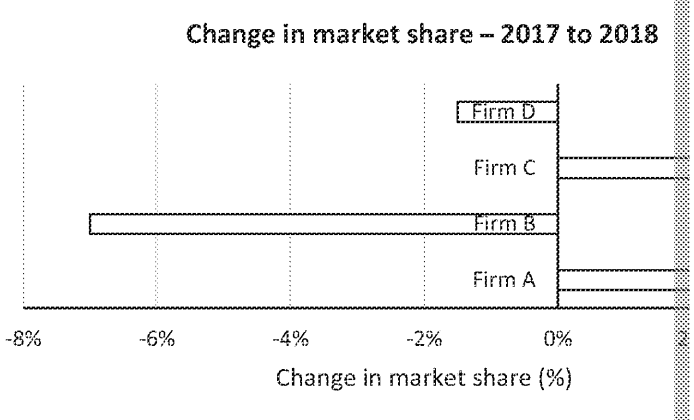


Figure 23

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?

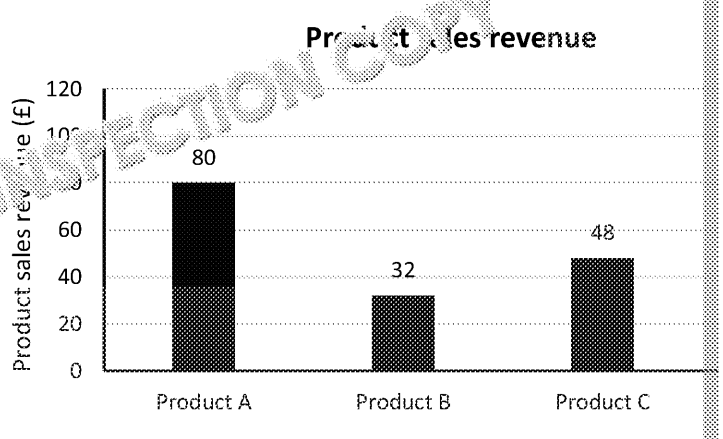


Figure 24

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

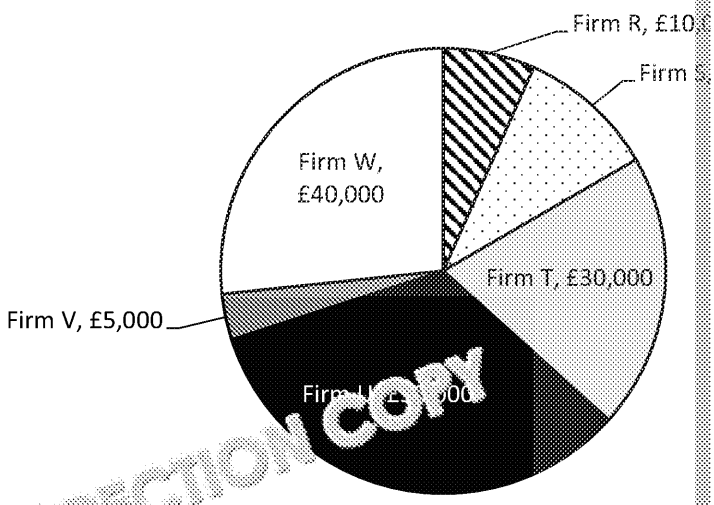


Figure 25

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 s
Shop for October, November and December. Show all workings. Give your a

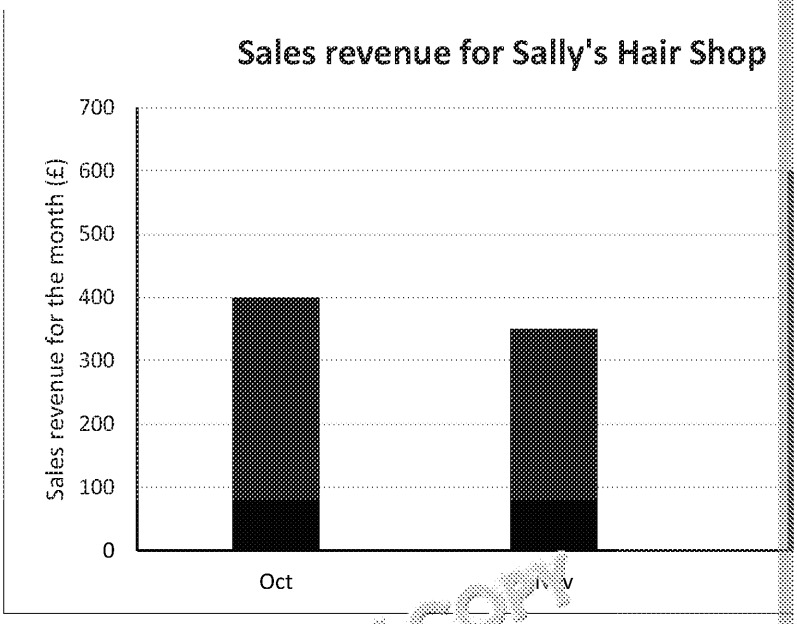


Figure 26

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 £ sign

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

$\frac{Sales\ for\ SS\ plc}{Total\ value\ of\ sales\ for\ market} x100$ (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	
12	
13	
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	£1.20

- 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 closest

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 q[illegible]s
- 1 mark for calculating the average
- 1 mark for expressing the a[illegible] expressing the answer to the nearest p

Total of the thre[illegible] £395 + £403 + £426 = £1,164 (1)
Averag[illegible]64 ÷ 3 quotes (1)
Average[illegible]

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 compa • 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 usi compare branch performance applied to the context of question
3	Comprehensive analysis of themes/subject based on the context • Impact on business is analysed appropriately • Applies knowledge and understanding of the significance of using the branch performance is applied to the context

Indicative content

- Calculating the average is a way of putting the monthly sales figures for each b
- The average 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 eas is a way of comparing each branch with the 'middle' level of performance within the considered a minimum benchmark (L2). However, each branch may differ in size and account. The only way to do this is to use a calculation to work out the average mon (square feet) (L3).

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 employees – Total of three employee
= £2,040 – (£450 + £530 + £510)
= £2,040 – £1,490
= £550 (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 and C
6	D
7	D
8	B
9	A
10	D
11	A
12	
13	
14	A

Questions 1 to 14 = AO1 × 1
(1 mark for each correct answer. Please note question 5 requires two correct answers)

Short-/long-response questions

15.
- 1 mark for putting figures into calculation
- 1 mark for the correct answer to the nearest whole penny (p) with the £ or p s

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

16.
- 1 mark for putting figures into calculation
- 1 mark for the correct answer to the nearest whole penny (p) with the £ sign

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

17.
- 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 penny (p) with the £ sign

Total sales revenue
- 100 sandwiches × £1.75 = £175
- 85 bottles × 60p = £51
- 45 bags × £1.10 = £49.50 (1)

Total re = £1 £51 + £49.50 (1) (OFR)
Total re £275.50 (1) (OFR)

18.
- 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)

19.
- 1 mark for expressing the correct formula to find the sales revenue
- 1 mark for putting the figures correctly into the calculation for the sales 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)

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

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

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

Profit = revenue – total costs
Profit = £435,500 – ? = £300,000 (1)
Total costs = £135,500 (1)

22.
- 1 mark for knowing formula for the sales revenue
- 0.5 mark for revenue per month
- 1 mark for adding the total revenue

Sales 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)

23.
- 1 mark for knowing formula
- 3 marks for revenue per day (0.5 mark for each 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.

24.
- 1 mark for correct formula
- 1 mark for correct answer, expressed to the nearest whole pound with £ sign

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

25. • 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)

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 = £8,000 / 12 = £666.67 (1)
Monthly variable costs = £12 × 40 = £480 (1)
Total costs = £666.67 + £480 = £1146.67 (1) (OFR)

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

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 the impact on sales revenue if the price of ea • Elementary knowledge and understanding of the impact on sales rev car increases by 10%
2	Some analysis of themes/subject based on the context • Partial analysis of the impact on sales revenue if the price of each ca • Applies some knowledge and understanding of the impact on sales re each 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% is analysed appropriately • Applies comprehensive knowledge and understanding of the impact price of each car increases by 10%

Indicative content
- Sales revenue = number of cars sold × price per car
- If the price increases by 10%, Kai will earn more sales revenue if the number o
- If the price increases by 10%, though, Kai may find that demand for his cars re reduces significantly he may find that total sales revenue falls

Analysis
The impact on sales revenue will vary depending upon the sensitivity of demand to
only in the number of cars sold reduces by a smaller proportion than the pr

Example of a developed response:
Sales revenue = number of cars sold × price per car (1). The impact on sales revenu demand for the cars (1). If the price increases by 10%, Kai will earn more sales reve remains the same (1). If the price increases by 10%, though, Kai may find that dema number of cars sold reduces significantly he may find that total sales revenue falls (

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	C
12	
13	
14	
15	A

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

Short-/Long-response questions

16. Answer = Variable costs (1)

17.
- 2 marks for the correct formula/calculations
- 1 mark for putting the correct figures into the formula
- 1 mark for the correct answer expressed to the nearest whole penny (p) with t

Break-even = Fixed costs ÷ Contribution
Contribution = Fixed costs ÷ Break-even
Contribution = 150 cushions ÷ £300 (1)
Contribution = £2 (1)

Variable costs = Selling price – Contribution
Variable costs = £5 – £2 (1)
Variable costs = £3.00 per cushion (1) (OFR)

18.
- 1 mark for the correct formula
- 1 mark for putting the correct figures into the formula
- 1 mark for the correct answer expressed to the nearest whole penny (p) with t

Break-even = Fixed costs ÷ Contribution
Contribution = Fixed costs ÷ Break-even
Contribution = £40,000 ÷ 80,000 bags (1)
Contribution = £0.50 (1)

Selling price = Contrib[illegible] costs
Selling pr[illegible]50
Selling p[illegible]0p (1) (OFR)

19.
- 1 mark for the correct formula
- 1 mark for the correct answer expressed to the nearest whole unit

Margin of safety = Current output – Break-even level of output
Margin of safety = 1,298 units – 1,200 units (1)
Margin of safety = 98 units (1)

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

21.
- 1 mark for the correct formula/calculations
- 1 mark for putting the correct figures into the formula
- 1 mark for the correct answer expressed to the nearest whole unit/house

Break-even = Fixed costs ÷ Contribution (1)
Break-even = £75,000 ÷ (£1,250 – £250) (1)
Break-even = 75 houses (1)

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/calculations
- 1 mark for putting the correct figures into th[illegible]
- 1 mark for the correct answer expres[illegible] nearest whole unit

Break-even = Fixed costs ÷ Con[illegible]
Break-even = £75,000 [illegible] (1)
= 32,609 u[illegible] (1)

24.
- 1 m[illegible] the correct formula/calculations
- 1 mark for putting the correct figures into the formula
- 1 mark for the correct answer expressed to the nearest whole pound

Margin of safety = Number of units sold – Break-even number of units (1)
40,000 – 32,609 = 7,391 units
Profit = Margin of safety × Selling price per unit
7,391 × £3.50 = £25,868.50 (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 t analysis as part of the business plan • Elementary knowledge and understanding of one reason why the ba 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 se as part of the business plan • Applies some knowledge and understanding of one reason why the b to see a break-even analysis as part of the business plan
3	Comprehensive analysis of themes/subject based on the context • Impact on business due to the bank manager asking to see the break • 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 [illegible] sold/produced by Tarq
- The bank manager can look at this [illegible] see how 'safe' the business'
- If Tarquin has the break-even [illegible] available he demonstrates to the bank m business owner whi[illegible] support the manager's trust of his ability to run a su funds. It sho[illegible] Tarquin has given thought to the amount of units he need
- Th[illegible] nalysis can be used by Tarquin to support his decision making

Analysis
- Having the break-even analysis available will increase Tarquin's likelihood of o Tarquin has given thought to the amount 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 that Tarquin has considered the amo to break-even and is a common section of a business plan (1). It also shows that he business in a financially appropriate manner and be successful so therefore more lik manager can also see how 'safe' the business's profit is and question Tarquin about t

26. • 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 advantages of calculating the break-even • Elementary knowledge and understanding of two advantages of calc level of output
2	Some analysis of themes/subject based on the context • Partial analysis of two advantages of calculating the break-even level • Applies some knowledge and understanding of two advantages of ca even level of output
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to [illegible] as a result of two advan the break-even level of outp[illegible] a[illegible]sed appropriately • Applies comprehen[illegible]ho[illegible]dge and understanding of two advant break-even l[illegible]f o[illegible]put

Indicat[illegible]en

- Br[illegible]n 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 safety
- The forecast can be used to make decisions about whether to change prices o and 'what if' scenarios considered.

Analysis

- Tarquin will need to carry out research to produce the break-even analysis. It financial matters relating to the business, and without the need to produce a b about any of the financial figures.
- Tarquin can use the break-even analysis to make robust pricing decisions. He if necessary.

Example of a developed response:
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 • Elementary knowledge and understanding of two limitations of carry break-even analysis
2	Some analysis of themes/subject based on the context • Partial analysis of two limitations of carrying out a break-even analy • Applies some knowledge and understanding of two limitations of ca break-even analysis
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to c... as a result of two limit break-even analysis is a... appropriately • Applies comprehensive knowledge and understanding of two limitat break-even analysis

Indicative content

- 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 unkno experienced and there are previous months trading/performance to analyse, t 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, and offer more opportunity to increase prices without affecting dem
- 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 a single mix of products. Many busines products that cost varying amounts (and are sold at different prices).

Example of a developed response:
Break-even analysis involves forecasted figures and the predictions may not prove to b Tarquin is new to running a business and also his business does not have any past dat A change in competition may affect the quality of the predictions, e.g. a new competi one mile away, which could reduce demand. Tarquin could not have predicted thi forecasts that he has used, e.g. the number of sales is not likely to be as high as predicted

SECTION 5 – GROSS PROFIT MARGIN AND NET PROFIT MARGIN RA

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	
12	
13	
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, arranging it and tran
- 1 mark for the correct answer with the £ sign, rounded to the nearest whole

Gross profit margin = Gross profit ÷ Sales revenue × 100
Sales revenue = Gross profit ÷ Gross profit margin (1)
Sales revenue = £32,[illegible] (1)
Sales revenue = £[illegible] (1) (OFR)

19.
- 1 mark for 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 = £4,000
Net profit = £1,500

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 Revenue × 100
Year 1 = £25,000 / £31,000 × 100 (1)
= 80.6% (1)
Year 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 pro • 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 compete as a result of the the gross profit margin is analysed appropriately • Applies comprehensive knowledge and understanding of the im the gross profit ma

Indicative content

- The gross profit margin compares the gross profit earned with the value of sales and is a measure of the profitability of the business. The aim is to achieve the highest gross profit margin as this means the business keeps a greater proportion of its sales revenue as gross profit.
- Checka's gross profit margin has increased during the two-year period, which means a greater proportion of sales revenue is kept as gross profit, which is positive.

Analysis

- Checka's gross profit margin has increased during the two-year period, which means a greater proportion 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.
- Sales revenue and gross profit have both increased in monetary value, but as a proportion of sales revenue the gross profit has increased by a greater proportion than the increase in sales revenue.
- Only two years' worth of accounts are available so it is only a snapshot in time.

Example of a developed response:
The gross profit margin compares the gross profit earned with the value of sales and is a measure of the profitability of the business. The aim is to achieve the highest gross profit margin as this means the business keeps a greater proportion of its sales revenue as gross profit. Checka's the gross profit margin achieved by Checka has increased over the two years, which means a greater proportion of sales revenue is kept as gross profit, which is positive. The Cost of Sales has reduced as a proportion of sales revenue (1). Only two years' worth of accounts are available so it is only a snapshot in time, but 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 revenue – Gross profit
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 formula
• 1 mark for the correct answer

£55,000 / £200,000 × 100 (1)
= 27.5%, i.e. 28% to the nearest whole percentage (1)

Note:
Award marks correctly. Full marks can be awarded if correct answer is shown but the formula is incorrect.

26. • 1 mark for putting the correct figures into the formulas (up to a maximum of 2)
• 1 mark for the correct gross/net profit margin, expressed with the % sign (up to a maximum of 2)

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	
12	
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 whol

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

18.
- 1 mark for calculating the 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 and expressed to the nearest whol

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 ... bu... a worthwhile investme

Average annual profit/return = (... £3,500 + £11,000) ÷ 3
= £25,500 ÷ 3
= £8,500 (1)

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

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 a
- 1 mark for recommending the machine

The calculation to find the ARR is as follows:
Average annual return/profit x 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 fi... ar... correct ARR, the % sign must accompany the numerical an

Rhianno... ld, therefore, choose Machine B because it has the highest ARR resu

22. • 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 mana investment decision

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 mach
- ARR provides a percentage return, which can be compared with a target/hurdl
- 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 non-financial specialists easily to help the making process (L2). The average rate of return results can be easily compared with e.g. the ARR for the different machines can be compared.

23. • 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:
Average annual return/profit x 100 (1) (AO1)
Initial cost of the investment

£450 × 100 (2)
£2,500
= 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:
Average annual return/profit x 100 (1) (AO1)
Initial cost of the investment

= 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 for each of the two machines (up to a m

The calculation to find the ARR is as follows:
Average annual return/profit x 100 (1)
Initial cost of the investment

Machine A
£12,000 × 100 (1)
£40,000
= 30.00% ARR (1) (OFR)

Machine B
£19,000 × 100 (1)
£55,000
= 34.55% ARR (1) (OFR)

For the ar[illegible] the correct ARR, the % sign must accompany the numerical an

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 mana investment decision

Possible answers include:
- Machine B has the highest ARR result, which suggests that it should be the ma
- Machine B is £15,000 more to purchase than Machine A. Katrina may not be a buy the more expensive machine.
- The profits generated by Machine B during the initial 2–3 years are less than th looking 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 sug[illegible]est[illegible] h[illegible]t it should be the machine other factors should be considered, e.g. [illegible]e B costs £15,000 more to purchase Katrina from purchasing it if sh[illegible] [illegible]o raise the funds (L2), and also Machine later years of its life, w[illegible] [illegible]ably risky as the longer the profits are received in they will [illegible] [illegible]L2). For these reasons I recommend that Katrina chooses

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 rat 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 investment decision

Possible answers include:

- The calculation uses forecasted fi… …e predictions may be inaccurate, le… the calculation.
- The average rate … …calculation only takes into account financial benefits … be… an… …e excluded from the calculation.
- Th… …ation 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 fi… qualitative factors may be of more importance, e.g. impact on brand and long-term … financial information is forecasted and there is a risk that the calculation may lead t… poor decision (L2).

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
- 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)
= £4,[illegible] – £3,000
= £4,900

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 h
all payments are received when the goods are released.

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

21. • Marks for this question: AO1 = 1; AO2 = 4
- 1 mark for accurately stating the form[illegible] to be used
- 4 marks for the calculation

Balance carried fo[illegible] 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 on the context • Elementary assessment with a conclusion • Elementary analysis of methods of solving 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 • 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 a fully justified conclusion • Methods of solving a cash flow problem are completely analysed • Applies knowledge and understanding to the context appropriately

Points to analyse, evaluate:

Application	Ana
Reduced trade credit is likely to be unpopular with customers as it may create cash flow issues for them.	The business may lose trade credit, which m worse as cash inflows may offer trade credit become uncompetitiv
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 a problems. There is no actual cos trade credit offered to reduce if customers a business/custom to a
The overdraft is repayable on demand; therefore, the business may find itself in worse cash flow problems if the bank suddenly recalls the overdraft.	If the bank suddenly r the business may find
If approved, the overdraft will enable the business to instantly benefit. 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 offe Reducing trade credit to maintain positive c required to give notic their terms of busines
Reducing trade credit for customers may signal that the business is experiencing cash flow problems.	The business may lose reputation, which may orse 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 asked • Elementary knowledge and understanding of the two reasons why th 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 t • Applies some knowledge and understanding of the two reasons why asked to see a cash flow forecast
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to [illegible] as a result of the two r manager has asked to see a cash flow forecast is analysed appropriat • Applies comprehensive knowledge and understanding of two reason has asked to see a cash flow forecast

Indicat[illegible]er

- Ca[illegible] forecast shows the amount of cash that is predicted to be within the
- Cash is essential for a business to survive as without it the business cannot pay its b

Analysis

- The bank manager may have asked for the business plan to support a loan appl 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 a

Example of a developed response:

The bank manager may have asked for the business plan to support a loan applicatio 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 usefu • Elementary knowledge and understanding of the two reasons why c 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 w • Applies some knowledge and understanding of the two reasons why useful when operating a business
3	Comprehensive analysis of themes/subject based on the context • Impact on business and its ability to [illegible] as a result of the two r forecasting is useful when operating a business • Applies comprehensive knowledge and understanding of the two re forecasting is useful when operating a business

Indicative content

- Producing a cash flow forecast encourages Neil to plan his financial/cash inflow
- 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 take

Analysis

- Any decisions that Neil makes are better informed, and, therefore, more likely 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 ca 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 of 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 predicted information. The prediction
- The cash flow forecast does not take account of unexpected events and extern

Analysis

- As the cash flow forecast information is predicted, it may not be correct. This fo[illegible] for Neil if he makes decisions based on the information which then m[illegible] profitable decisions for his business.
- The predictions are likely to be less accurate if Neil is inexperienced and/or the 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 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 completely an • Applies knowledge and understanding to the context appropriately

Points to apply, analyse, evaluate:

Application	Ana
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 af instance. After the sp will have to pay for its short-term source of f
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 trad refuse to supply to th extended trade credit that the business is ha
When taking trade credit, the business may lose out on prompt payment discounts.	Often discounts are o businesses to pay for appreciate that the bu 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 relati involves the payment o

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 may predicted cash flow.
2	Some analysis of themes/subject based on the context • Partial analysis of whether any action may be required regarding its p • 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 regarding analysed appropriately. • Applies comprehensive knowledge and understanding of whether any regarding its predicted cash flow.

Possible answers

The cash position of the business is forecast to be positive for both May and June. T 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**

- Up to 3 marks for data correctly allocated in cash flow forecast
- 1 mark for each correct calculation/answer (in bold) up to 9 marks maximum

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 a fully justified conclusion • The benefits of ways to solve a cash flow problem are complete • Applies knowledge and understanding to the context appropria

Possible answers:

- Alerts the business to future cash flow problems
- Evidence to support loan/overdraft applicat
- Assists the business to ensure suff sh available to meet payments as
- Assists the business to pla e cash balances that could be used to be interest-bearing
- Time
- C ate due to the experience of an owner, especially in new busine

SECTION 8 – INTERPRETING INFORMATION FROM GRAPHS AND C

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	C
8	A
9	C
10	A
11	D
12	D
13	
14	
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 + £40,000
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)