# GB6.1 Business calculations: revenue, costs and profit

Total Marks

AQA 8132 · Calculator allowed · about 70 minutes

Name: ______________________________ Date: ____ / ____ / ______

**Answer ALL questions. Show your working for every calculation: method marks are available even if your final answer is wrong. Bramble Bakery, used throughout this pack, is a fictional business.**

**1** Bramble Bakery is a fictional business that makes and sells loaves of bread.
Which one of the following is an example of a variable cost for Bramble Bakery?

- ☐ A) Rent on the bakery premises
- ☐ B) Flour used to make the bread
- ☐ C) The bakery manager's salary
- ☐ D) The bakery's annual business insurance

**(Total for Question 1 is 1 mark)**

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**2** Which one of the following is an example of a fixed cost for Bramble Bakery?

- ☐ A) Flour used to make the bread
- ☐ B) Icing sugar used per cake
- ☐ C) Rent on the bakery premises
- ☐ D) Packaging used per loaf

**(Total for Question 2 is 1 mark)**

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**3** Other than rent, state two examples of a fixed cost that Bramble Bakery might have to pay each month.

**(Total for Question 3 is 2 marks)**

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**4** Bramble Bakery sells 2,500 loaves in a month at 3.50 pounds each. Calculate the bakery's total revenue for the month. Show your working.

**(Total for Question 4 is 2 marks)**

**5** Bramble Bakery's variable cost is 1.50 pounds per loaf. Calculate the bakery's total variable costs for the month, if it makes 2,500 loaves. Show your working.

**(Total for Question 5 is 2 marks)**

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**6** Bramble Bakery's fixed costs are 4,000 pounds per month. Using your answer to question 5, calculate the bakery's total costs for the month. Show your working.

**(Total for Question 6 is 2 marks)**

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**7** Using your answers to questions 4 and 6, calculate Bramble Bakery's profit for the month. Show your working.

**(Total for Question 7 is 2 marks)**

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**8** State the formula used to calculate profit.

**(Total for Question 8 is 1 mark)**

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**9** Bramble Bakery's cost of sales is its variable (direct) cost of making the loaves. Calculate Bramble Bakery's gross profit margin for the month, as a percentage of revenue. Give your answer to 1 decimal place. Show your working.

**(Total for Question 9 is 3 marks)**

**10** Calculate Bramble Bakery's net profit margin for the month, as a percentage of revenue. Give your answer to 1 decimal place. Show your working.

**(Total for Question 10 is 3 marks)**

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**11** State two reasons why a business's net profit margin is usually lower than its gross profit margin.

**(Total for Question 11 is 2 marks)**

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**12** Bramble Bakery is launching a new sourdough loaf with a selling price of 4.00 pounds and a variable cost of 2.00 pounds per loaf. The bakery expects additional fixed costs of 600 pounds a month for this new product line.
Calculate the break-even output: the number of sourdough loaves that must be sold per month to break even. Show your working.

**(Total for Question 12 is 3 marks)**

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**13** In its first month, Bramble Bakery sells 450 sourdough loaves. Using your answer to question 12, calculate the margin of safety, in loaves. Show your working.

**(Total for Question 13 is 2 marks)**

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**14** State one reason why a business with a larger margin of safety is generally less risky than a business with a small margin of safety.

**(Total for Question 14 is 1 mark)**

**15** Bramble Bakery draws up a cash-flow forecast for its first three months of trading. Some figures are missing.

| Month | Opening balance (pounds) | Total cash inflows (pounds) | Total cash outflows (pounds) | Net cash flow (pounds) | Closing balance (pounds) |
|---|---|---|---|---|---|
| Month 1 | 2,000 | 9,000 | 8,200 | (a) | (b) |
| Month 2 | (c) | 8,500 | 9,100 | (d) | 2,200 |
| Month 3 | 2,200 | 10,000 | 8,700 | 1,300 | (e) |

Calculate the value of each missing figure, (a) to (e). Show your working.

**(a)** Calculate the missing net cash flow for Month 1. **(1)**

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**(b)** Calculate the missing closing balance for Month 1. **(1)**

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**(c)** Calculate the missing opening balance for Month 2. **(1)**

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**(d)** Calculate the missing net cash flow for Month 2. **(1)**

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**(e)** Calculate the missing closing balance for Month 3. **(1)**

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**(Total for Question 15 is 5 marks)**

**16** Analyse one reason why a business might experience a cash-flow problem even though it is profitable overall.

**(Total for Question 16 is 6 marks)**

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**17** State two ways a business could improve a period of negative cash flow, such as Month 2 in Bramble Bakery's forecast above.

**(Total for Question 17 is 2 marks)**

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**18** Bramble Bakery's owner is deciding whether to keep selling the new sourdough loaf permanently. In its first month the loaf sold 450 units against a break-even output of 300 units, but the owner is unsure whether sales will stay this high.
Recommend whether Bramble Bakery should continue selling the sourdough loaf. Justify your answer using the figures given in this pack.

**(Total for Question 18 is 9 marks)**

# Mark scheme · GB6.1 Business calculations: revenue, costs and profit

### Question 1

- **B1** B cao
- **Answer: B**

### Question 2

- **B1** C cao
- **Answer: C**

### Question 3

- **B1** one acceptable fixed cost, e.g. staff salaries paid on a fixed contract
- **B1** a second acceptable fixed cost, e.g. loan repayments, or business insurance premiums, or equipment lease payments
- **Answer: Any two, e.g. staff salaries; loan repayments; business insurance; equipment lease payments.**

### Question 4

- **M1** 2,500 x 3.50 seen
- **A1** 8,750 pounds cao
- **Answer: 8,750 pounds.**

### Question 5

- **M1** 2,500 x 1.50 seen
- **A1** 3,750 pounds cao
- **Answer: 3,750 pounds.**

### Question 6

- **M1** 4,000 + 3,750 seen (ft from question 5)
- **A1** 7,750 pounds cao
- **Answer: 7,750 pounds.**

### Question 7

- **M1** 8,750 - 7,750 seen (ft from questions 4 and 6)
- **A1** 1,000 pounds cao
- **Answer: 1,000 pounds.**

### Question 8

- **B1** profit = total revenue - total costs, oe
- **Answer: Profit = total revenue - total costs.**

### Question 9

- **M1** gross profit = 8,750 - 3,750 (= 5,000) seen
- **M1** 5,000 / 8,750 x 100 seen
- **A1** 57.1% cao (awrt 57.1%)
- **Answer: 57.1% (gross profit margin).**

### Question 10

- **M1** profit = 1,000 seen (ft from question 7)
- **M1** 1,000 / 8,750 x 100 seen
- **A1** 11.4% cao (awrt 11.4%)
- **Answer: 11.4% (net profit margin).**

### Question 11

- **B1** one acceptable reason, e.g. gross profit only deducts the direct cost of making the product (cost of sales), while net profit also deducts other running costs such as rent, wages and marketing
- **B1** a second acceptable reason, e.g. a business with high overheads (fixed costs) will see a larger gap between its gross and net profit margins
- **Answer: Any two, e.g. net profit also deducts overheads/running costs that gross profit does not; higher overheads widen the gap between the two margins.**

### Question 12

- **M1** contribution per loaf = 4.00 - 2.00 (= 2.00) seen
- **M1** 600 / 2.00 seen
- **A1** 300 loaves cao
- **Answer: 300 sourdough loaves per month.**

### Question 13

- **M1** 450 - 300 seen (ft from question 12)
- **A1** 150 loaves cao
- **Answer: 150 loaves.**

### Question 14

- **B1** sales can fall by more before the business drops below its break-even point (starts making a loss), oe
- **Answer: Sales can fall further before the business drops below break-even and starts making a loss.**

### Question 15

- (a) **B1** 800 pounds cao
- **(a) Answer: 800 pounds.**
- (b) **B1** 2,800 pounds cao (ft from part a)
- **(b) Answer: 2,800 pounds.**
- (c) **B1** 2,800 pounds cao (ft from part b: a month's opening balance equals the previous month's closing balance)
- **(c) Answer: 2,800 pounds.**
- (d) **B1** -600 pounds cao (accept 'negative 600 pounds' or '(600 pounds)')
- **(d) Answer: Negative 600 pounds (outflow of 600 pounds).**
- (e) **B1** 3,500 pounds cao
- **(e) Answer: 3,500 pounds.**

### Question 16

- **Level 1** (1-3): Identifies a reason with little or no development; the distinction between profit and cash flow is limited or missing.
- **Level 2** (4-6): Develops a clear chain of reasoning, correctly distinguishing profit from cash flow, to show how a profitable business can still run short of cash.
- **Indicative content:**
  - Profit is measured over a period (e.g. a month or a year) and can include sales made on credit that have not yet been paid for, whereas cash flow only counts money that has actually been received or paid out.
  - A business can be profitable on paper but still run out of cash if customers are slow to pay their invoices (poor credit control).
  - Large one-off cash outflows, such as buying new equipment or repaying a loan, reduce the cash balance even though they may not all be counted as a cost in that month's profit calculation.
  - As Bramble Bakery's own forecast shows in Month 2, cash outflows can exceed inflows in a single month (a negative net cash flow of 600 pounds) even while the business remains profitable over the year as a whole.
  - If a business runs out of cash it may be unable to pay suppliers, staff or its own bills on time, which can threaten its survival regardless of how profitable it is overall.

### Question 17

- **B1** one acceptable method, e.g. negotiate longer payment terms with suppliers, delaying cash outflows
- **B1** a second acceptable method, e.g. chase up customers who owe money sooner, or offer a discount for early payment, to bring cash inflows forward; or arrange a short-term overdraft/loan to cover the shortfall
- **Answer: Any two, e.g. negotiate longer supplier payment terms; chase early customer payments/offer early-payment discounts; arrange a short-term overdraft.**

### Question 18

- **Level 1** (1-3): Makes simple, undeveloped comments about the sourdough loaf, with little or no use of the pack's figures and no clear recommendation.
- **Level 2** (4-6): Gives a developed argument for or against continuing to sell the loaf, using some of the pack's figures, but does not fully weigh both sides or reach a clearly justified recommendation.
- **Level 3** (7-9): Weighs the evidence for and against continuing to sell the loaf, using the break-even, margin of safety and cash-flow figures from this pack, and reaches a justified recommendation supported by that analysis.
- **Indicative content:**
  - For continuing: first-month sales of 450 loaves are 150 above the break-even output of 300, a healthy margin of safety, suggesting the product is already comfortably profitable.
  - For continuing: the sourdough loaf's contribution per unit (2.00 pounds) is higher in percentage terms than the original loaf's, since its variable cost is a smaller share of its higher selling price.
  - Against continuing: one month of data is a small sample; if demand falls closer to the break-even point of 300, the margin of safety shrinks and the product line becomes riskier.
  - Against continuing: the new product adds 600 pounds of extra fixed costs every month regardless of sales, and Bramble Bakery's Month 2 cash-flow forecast already shows the business can have a negative net cash flow (-600 pounds) even while trading profitably overall, so an unprofitable new line would add further cash-flow pressure.
  - Judgement: a reasonable recommendation is to continue selling the sourdough loaf while closely monitoring sales for a further month or two, since current figures comfortably clear break-even, but the owner should be ready to withdraw the product if sales fall towards the 300-loaf break-even point.
  - A top-level answer explicitly uses the numerical evidence (margin of safety of 150 loaves, the 600 pound extra fixed cost, the Month 2 negative cash flow) to support whichever recommendation is made, rather than asserting a judgement without figures.