



3.6F Proportion: Foundation Tier Practice

EDEXCEL Edexcel 1MA1 · Calculator allowed · about 50 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Amina and Yusuf share 12 biscuits in the ratio 2:1. Work out how many biscuits Amina gets and how many Yusuf gets.

(Total for Question 1 is 2 marks)

- 2** Five pens cost £3.00. Work out the cost of one pen, then the cost of eight pens.

(Total for Question 2 is 2 marks)

- 3** y is directly proportional to x . When $x = 4$, $y = 6$. Work out y when $x = 10$.

(Total for Question 3 is 2 marks)

- 4** A muffin recipe uses 150 g of flour to make 3 muffins. How much flour is needed to make 10 muffins?

(Total for Question 4 is 2 marks)

- 5** On a map the scale is 1 cm represents 5 km. The real-life distance between two towns is 14 km. What is the distance between the two towns on the map, in centimetres?

(Total for Question 5 is 2 marks)

- 6** Three friends share £36 in the ratio 3:2:1. Work out the smallest share.

(Total for Question 6 is 2 marks)

- 7** A car travels 90 miles using 6 gallons of petrol.
(a) Work out how many miles the car travels per gallon.
(b) Work out how many gallons are needed for a 300 mile journey. Give your answer to 1 decimal place.

(a) (a) Work out how many miles the car travels per gallon. (1)

(b) (b) How many gallons are needed for 300 miles? Give answer to 1 decimal place. (2)

(Total for Question 7 is 3 marks)

- 8** A jacket is reduced by 20% and now costs £24. Work out the original price of the jacket.

(Total for Question 8 is 3 marks)

9 Two quantities are in the ratio 4:7. If their total is 99, find the smaller quantity.

(Total for Question 9 is 3 marks)

Mark scheme · 3.6F Proportion: Foundation Tier Practice

Question 1

- **M1** Divide 12 into $2 + 1 = 3$ equal parts, find one part $12/3 = 4$ oe
- **A1** Amina 8 biscuits, Yusuf 4 biscuits cao
- **Answer: Amina 8, Yusuf 4**

Question 2

- **M1** Find cost of 1 pen: $3.00 / 5 = 0.60$ oe
- **A1** Cost of 8 pens = $8 \times 0.60 = £4.80$ cao
- **Answer: £4.80**

Question 3

- **M1** Find constant of proportionality k : $y/x = 6/4 = 3/2$, so $y = (3/2)x$ oe
- **A1** $y = (3/2)x \rightarrow y = (3/2) \times 10 = 15$ cao
- **Answer: 15**

Question 4

- **M1** Find flour per muffin: $150/3 = 50$ g oe
- **A1** For 10 muffins: $10 \times 50 = 500$ g cao
- **Answer: 500 g**

Question 5

- **M1** Use scale: 1 cm = 5 km so cm = $14 / 5$ oe
- **A1** Distance = 2.8 cm cao
- **Answer: 2.8 cm**

Question 6

- **M1** Total parts $3+2+1 = 6$, one part = $36/6 = 6$ oe
- **A1** Smallest share = 1 part = £6 cao
- **Answer: £6**

Question 7

- (a) **B1** 15 miles per gallon cao
- (a) **Answer: 15 mpg**
- (b) **M1** Use mpg: gallons = $300 / 15$ oe
- (b) **A1** gallons = 20.0 to 1 dp cao
- (b) **Answer: 20.0 gallons**

Question 8

- **M1** Let original price be P . After 20% reduction price = $0.8P$ so $0.8P = 24$ oe
- **A1** $P = 24 / 0.8 = 30$ cao
- **A1** State original price £30 cao
- **Answer: £30**

Question 9

- **M1** Total parts $4 + 7 = 11$, one part = $99/11 = 9$ oe
- **A1** Smaller quantity = 4 parts = $4 \times 9 = 36$ cao
- **A1** State smaller quantity 36 cao
- **Answer: 36**