Day 205 **C Tier 10-a-day: Model Solutions**

1 Halves, quarters and thirds

Write down a quarter of 52.

Halve, then halve again: 26, then 13

Answer: 13

2 The mean

Here are the shoe sizes of some students.
6 6 3
Work out the mean.

Add up the values: 6 + 6 + 3 = 15
Divide by 3: 15 ÷ 3 = 5

Answer: 5

3 Number line

The number line shows an arrow.
Write down the number the arrow points to.

The numbers go up by 1 for each mark
The arrow points to −2

Answer: −2

4 Map scales

On a map, 1 cm represents 50 m.
Two towns are 600 m apart in real life.
How far apart are they on the map?

1 cm represents 50 m
600 ÷ 50 = 12

Answer: 12 cm

5 Coordinates

(a) Write down the coordinates of point Q.
(b) Which point has coordinates (−1, −3)?

(a) Q is left 1 and up 2
(b) Go left 1 and down 3: this is point R

Answer: (a) (−1, 2) (b) R

6 Simplifying fractions

Write $\frac{15}{18}$ in its simplest form.

Divide the top and bottom by 3

$\frac{15}{18} = \frac{5}{6}$

Answer: $\frac{5}{6}$

7 Finding a missing value from the mean

The mean of five numbers is 9.
Four of the numbers are 5, 17, 5 and 15.
Work out the other number.

Total of all the numbers: 9 × 5 = 45
Total of those given: 5 + 17 + 5 + 15 = 42
45 − 42 = 3

Answer: 3

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8 Perimeter on a square grid

The diagram shows a shape drawn on a square grid.
Each square has a side of length 1 cm.
Work out the perimeter of the shape.

Count the length of each side going round the shape.
3 + 1 + 2 + 2 + 2 + 2 + 3 + 3 = 18
Answer: 18 cm

9 Venn diagrams

Some students were asked whether they play football or netball.
The Venn diagram shows the results.
How many students play netball?

Add the number in the netball circle: 10 + 1 = 11
Answer: 11

10 Substitution

Work out the value of 3(a + 7) when a = 8.

Brackets first: 8 + 7 = 15
3 × 15 = 45
Answer: 45