Day 292 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

? ÷ 7 = 8

8 × 7 = 56

Answer: 56

2 Simplifying ratios

Simplify the ratio 15 : 21

Divide both numbers by 3

15 ÷ 3 = 5 and 21 ÷ 3 = 7

Answer: 5 : 7

3 Reading straight line graphs

The graph shows the cost of printing photos.

(a) Work out the cost of printing 3 photos.

(b) Ali spends £25 printing photos. How many photos does Ali print?

(a) Go up from 3 on the bottom axis to the line, then across: £20

(b) Go across from 25 on the cost axis to the line, then down: 4

Answer: (a) £20 (b) 4

4 Negative numbers

Work out −8 + 5.

Use a number line

−8 + 5 = −3

Answer: −3

5 Perimeter on a square grid

The diagram shows a shape drawn on a square grid.

Each square has a side of length 1 m.

Work out the perimeter of the shape.

Count the length of each side going round the shape.

2 + 2 + 2 + 4 + 4 + 2 = 16

Answer: 16 m

6 Substitution

b = 8 and p = 3

Work out the value of

(a) 2b + p

(b) b + 3p

(a) 2 × 8 + 3 = 19

(b) 8 + 3 × 3 = 17

Answer: (a) 19 (b) 17

7 Timetables

The table shows the times of two buses.

How many minutes does Bus 2 take to go from Derby to Leeds?

10:05 − 09:40

Count on from 09:40 to 10:05

Answer: 25 minutes

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8 Sharing in a ratio

Priya and Amir share £70 in the ratio 2 : 5.
Work out how much each person gets.

Number of parts = 2 + 5 = 7
One part = 70 ÷ 7 = 10
Priya: 2 × 10 = 20 Amir: 5 × 10 = 50
Answer: Priya £20, Amir £50

9 Time conversions

Change
(a) 10 weeks into days
(b) 5 weeks into days

(a) 1 weeks = 7 days, so multiply by 7: 10 × 7 = 70
(b) 1 weeks = 7 days, so multiply by 7: 5 × 7 = 35
Answer: (a) 70 days (b) 35 days

10 Percentages of amounts

Work out 10% of 110 kg.

10% = $\frac{1}{10}$, so divide by 10
110 ÷ 10 = 11
Answer: 11 kg