Day 57 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 16 − c when c = 10.

16 − 10 = 6

Answer: 6

2 Angles in a right angle

A right angle is split into two angles by a line.
Work out the size of angle b.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 25 = 65

Answer: b = 65°

3 Ordering negative numbers

Write these numbers in order, starting with the smallest.
6, −6, −8, 0, −5

Use a number line: negative numbers are smaller the further they are from 0

Answer: −8, −6, −5, 0, 6

4 Rates

A printer prints 3 pages each minute.
How many pages does it print in 5 minutes?

3 × 5 = 15

Answer: 15 pages

5 Estimation

Estimate the value of 43 + 51 by rounding each number to the nearest 10.

43 rounds to 40 and 51 rounds to 50
40 + 50 = 90

Answer: 90

6 Area on a square grid

The diagram shows a shape drawn on a square grid.
Each square has an area of 1 cm^2.
Work out the area of the shape.

Count the squares in the shape.
Split into two rectangles: 4 × 3 = 12 and 3 × 4 = 12
12 + 12 = 24

Answer: 24 cm^2

7 Sampling

Priya wants to find out what music people in a town like.
Priya asks only people at a rock concert.
Give a reason why this sample may be biased.

People at a rock concert are more likely to like rock music

Answer: People at a rock concert are more likely to like rock music

8 Substitution into formulae

Use the formula K = 6l + 2w to work out the value of K when l = 4 and w = 8.

K = 6 × 4 + 2 × 8
= 24 + 16 = 40

Answer: K = 40

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9 Perimeter of a square from its area

A square field has an area of 144 m^2.
Work out the perimeter of the field.

Side × side = 144, so the side is 12 m (because 12 × 12 = 144)
Perimeter = 4 × 12 = 48
Answer: 48 m

10 Probability of not getting a colour

A bag contains 6 red counters, 2 blue counters and 6 white counters.
One is taken at random.
Write down the probability that it is not blue.

Number that are not blue: 6 + 6 = 12
Total: 14
Probability = $\frac{12}{14} = \frac{6}{7}$
Answer: $\frac{6}{7}$