Day 51 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

? − 22 = 6

6 + 22 = 28

Answer: 28

2 Sequences

Here are the first four terms of a sequence.

67, 64, 61, 58

Write down the next term.

The terms go down by 3 each time

58 − 3 = 55

Answer: 55

3 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: 2 × 3 = 6 and 4 × 1 = 4

6 + 4 = 10

Answer: 10 cm^2

4 Time from distance and speed

A cyclist travels 60 km at 12 km/h.

How long does the journey take?

Time = distance ÷ speed

60 ÷ 12 = 5

Answer: 5 hours

5 Multiplication

Work out 34 × 6.

30 × 6 = 180 and 4 × 6 = 24

180 + 24 = 204

Answer: 204

6 Formulae in words

Here is a rule to work out the cost of a party.

Cost (£) = 3 × number of guests + 20

Work out the cost of a party with 3 guests.

Cost (£) = 3 × 3 + 20

= 9 + 20 = 29

Answer: £29

7 Best buys

Yoghurts are sold in two packs.

Pack A has 12 and costs £7.20.

Pack B has 10 and costs £5.00.

Which pack is better value?

Pack A: 720p ÷ 12 = 60p each

Pack B: 500p ÷ 10 = 50p each

Pack B is cheaper per item

Answer: Pack B

Day 51 **C Tier 10-a-day: Model Solutions**

8 Substitution

Work out the value of n + 9 when n = −1.

−1 + 9 = 8

Answer: 8

9 Volume and surface area of a cube

A cube has sides of length 8 cm.
(a) Work out the volume of the cube.
(b) Work out the total surface area of the cube.

(a) Volume = 8 × 8 × 8 = 512
(b) Each face is a square of area 8 × 8 = 64
A cube has 6 faces: 6 × 64 = 384

Answer: (a) 512 cm^3 (b) 384 cm^2

10 Writing ratios

A shelf has 2 fiction books and 11 non-fiction books.
Write down the ratio of non-fiction to fiction.

The ratio of non-fiction to fiction is written 11 : 2

Answer: 11 : 2