Day 84 **C Tier 10-a-day: Model Solutions**

1 The mode

Here are the marks in a test.
12 16 6 6 5 19 15 13
Write down the mode.

The mode is the value that appears most often
6 appears 2 times
Answer: 6

2 Angles round a point

The diagram shows 3 angles round a point.
Work out the size of angle q.
The diagram is not drawn accurately.

Angles round a point add up to 360°
70 + 140 = 210
360 − 210 = 150
Answer: q = 150°

3 Negative numbers: temperature

The temperature is 6°C.
It falls by 14°C.
What is the new temperature?

6 − 14 = −8
Answer: −8°C

4 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: 5 × 3 = 15 and 1 × 4 = 4
15 + 4 = 19
Answer: 19 cm^2

5 Using formulae

The perimeter, P cm, of a square with side length s cm is given by the formula P = 4s.
(a) Work out the value of P when s = 2.
(b) Work out the value of s when P = 24.

(a) P = 4 × 2 = 8
(b) 4s = 24, so s = 24 ÷ 4 = 6
Answer: (a) P = 8 (b) s = 6

6 Estimation

Estimate the value of 38 + 61 by rounding each number to the nearest 10.

38 rounds to 40 and 61 rounds to 60
40 + 60 = 100
Answer: 100

7 Stem and leaf diagrams

The stem and leaf diagram shows the ages, in years, of people in a club.
How many values are there altogether?

Count the leaves in each row: 5 + 5 + 1 = 11
Answer: 11

Day 84 **C Tier 10-a-day: Model Solutions**

8 Duration of a journey

A train leaves at 8:30 am and arrives at 11:25 am.
How long does the journey take?

Count on from 8:30 am to 11:25 am:
30 minutes to 9:00 am
2 hours to 11:00 am
25 minutes to 11:25 am
Total: 2 hours 55 minutes
Answer: 2 hours 55 minutes

9 Solving equations

Solve $\frac{c}{3} = 8$

$\frac{c}{3}$ means c ÷ 3, so multiply both sides by 3
c = 8 × 3 = 24
Answer: c = 24

10 Prime numbers

Write down the prime number in this list.
13, 9, 21, 45

A prime number has exactly two factors, 1 and itself
9 = 3 × 3
21 = 3 × 7
45 = 3 × 15
Answer: 13