Day 255 **C Tier 10-a-day: Model Solutions**

1 The range

Here are the shoe sizes of some students.
7 6 3 4 4 6
Work out the range.

Range = largest value − smallest value
7 − 3 = 4
Answer: 4

2 Sequences

Here is a sequence with one number missing.
25, 34, 43, ?, 61
Work out the missing number.

The terms go up by 9 each time
43 + 9 = 52
Answer: 52

3 Number sequences

Here is a number sequence.
40, 37, 34, 31, ...
Write down the next two numbers.

The sequence goes down by 3 each time
31 − 3 = 28, 28 − 3 = 25
Answer: 28, 25

4 Area on a square grid

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

Count the squares in the shape.
Split into two rectangles: 2 × 2 = 4 and 2 × 1 = 2
4 + 2 = 6
Answer: 6 m^2

5 Missing numbers

Find the missing number.
? − 40 = 34

34 + 40 = 74
Answer: 74

6 Substitution

Work out the value of b^3 when b = 5.

b^3 means b × b × b
5 × 5 × 5 = 125
Answer: 125

7 Number puzzles

I think of a number.
I add 8.
My answer is 16.
What number did I think of?

Work backwards: subtract 8
16 − 8 = 8
Answer: 8

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8 Missing side from area

A rectangular wall has an area of 20 cm^2.
Its length is 10 cm.
Work out its width.

Area = length × width
20 = 10 × width
width = 20 ÷ 10 = 2
Answer: 2 cm

9 Scatter graphs

Here is a scatter graph of hot drinks sold against outside temperature.
Describe the correlation.

As outside temperature increases, hot drinks sold decreases
This is negative correlation
Answer: Negative correlation

10 Equations of lines

A straight line passes through the points
(7, 1), (7, 3), (7, 5)
Write down the equation of the line.

Every point has x-coordinate 7, so the line is vertical
Answer: x = 7