Day 365 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of c^2 when c = 2.

c^2 means c × c
2 × 2 = 4
Answer: 4

2 Proportion

3 stamps cost £2.25.
Work out the cost of 6 stamps.

Cost of one stamp: 225p ÷ 3 = 75p
75p × 6 = 450p
450p = £4.50
Answer: £4.50

3 Place value

Write down the value of the digit 5 in the number 3519.

The digit 5 is in the hundreds column
5 × 100 = 500
Answer: 500

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: 3 × 3 = 9 and 2 × 4 = 8
9 + 8 = 17
Answer: 17 cm^2

5 Special sequences

Here are the first four terms of a sequence.
9, 16, 25, 36
Write down the next term.

These are square numbers: 3^2, 4^2, 5^2, 6^2 and so on
The next is 7^2 = 49
Answer: 49

6 Enlargement

A rectangle is 2 cm long and 6 cm wide.
It is enlarged by scale factor 2.
Write down the length and the width of the enlarged rectangle.

Multiply each length by 2
2 × 2 = 4
6 × 2 = 12
Answer: length 4 cm, width 12 cm

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 + 3 + 4 = 12
Answer: 12

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8 Vertically opposite angles

The diagram shows two straight lines crossing.
Work out the size of angle x.
The diagram is not drawn accurately.

Vertically opposite angles are equal
x = 70°
Answer: x = 70°

9 Simplifying expressions

Simplify 2p + 4 + 6p

Letters: 2p + 6p = 8p
Numbers: 4 on its own
Answer: 8p + 4

10 Multiplying and dividing by 10 and 100

Work out 272 ÷ 100.

Dividing by 100 moves each digit 2 places to the right
Answer: 2.72