Day 39 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of t − 9 when t = 10.

10 − 9 = 1

Answer: 1

2 Perimeter on a square grid

The diagram shows a shape drawn on a square grid.
Each square has a side of length 1 cm.
Work out the perimeter of the shape.

Count the length of each side going round the shape.
2 + 2 + 1 + 2 + 3 + 4 = 14

Answer: 14 cm

3 Expressions for perimeter

A triangle has sides of length b cm, b cm and 2 cm.
Write an expression for the perimeter of the shape.
Give your answer in its simplest form.

Perimeter = b + b + 2
= 2b + 2

Answer: 2b + 2 cm

4 Powers

Write 5 × 5 × 5 as a power of 5.

5 is multiplied by itself 3 times

Answer: 5^3

5 Isosceles triangles

The diagram shows an isosceles triangle.
Work out the size of angle a.
The diagram is not drawn accurately.

The triangle is isosceles, so the two base angles are equal
180 − 30 = 150
150 ÷ 2 = 75

Answer: a = 75°

6 Solving equations

Solve 7p = 35

7p means 7 × p, so divide both sides by 7
p = 35 ÷ 7 = 5

Answer: p = 5

7 Proportion

6 tickets cost £5.40.
Work out the cost of 2 tickets.

Cost of one ticket: 540p ÷ 6 = 90p
90p × 2 = 180p
180p = £1.80

Answer: £1.80

8 Fractions, decimals and percentages

Write 0.9 as a percentage.

Multiply by 100
0.9 × 100 = 90

Answer: 90%

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9 Average speed

A car travels 60 miles in 4 hours.
Work out its average speed.

Speed = distance ÷ time
60 ÷ 4 = 15
Answer: 15 mph

10 Ordering negative numbers

The temperatures in five towns are shown (in °C).
7, 0, 3, 6, 8
Write them in order, starting with the highest.

Use a number line: negative numbers are smaller the further they are from 0
Answer: 8, 7, 6, 3, 0