Day 68 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.
10 + ? = 21

21 − 10 = 11
Answer: 11

2 Lines of symmetry

Write down the number of lines of symmetry of
(a) an equilateral triangle
(b) a rhombus

(a) An equilateral triangle has 3 lines of symmetry
(b) A rhombus has 2 lines of symmetry
Answer: (a) 3 (b) 2

3 Line graphs

The line graph shows the temperature in a garden at different times.
Work out the increase in the temperature between 1 pm and 2 pm.

At 1 pm: 7°C At 2 pm: 10°C
10 − 7 = 3
Answer: 3°C

4 Special sequences

Here are the first four terms of a sequence.
3, 9, 27, 81
Write down the next term.

Each term is 3 times the one before
81 × 3 = 243
Answer: 243

5 Ordering negative numbers

The temperatures in five towns are shown (in °C).
1, −1, 6, 8, −7
Write them in order, starting with the lowest.

Use a number line: negative numbers are smaller the further they are from 0
Answer: −7, −1, 1, 6, 8

6 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 both 50°
50 + 50 = 100
180 − 100 = 80
Answer: a = 80°

7 Reading a straight-line graph

The graph shows the cost of cheese.
Use the graph to find the cost of 8 kg of cheese.

Go up from 8 on the horizontal axis to the line, then across
Cost = £24
Answer: £24

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8 Ordering fractions

Write these fractions in order, starting with the smallest.

$\frac{9}{10}, \frac{7}{10}, \frac{1}{10}$

The denominators are all 10, so compare the numerators
1, 7, 9 (numerators in order)

Answer: $\mathbf{\frac{1}{10}, \frac{7}{10}, \frac{9}{10}}$

9 Circles with an approximate pi

A circle has a radius of 5 cm.
Use $\pi = 3$ to work out an estimate for its area.

Area = $\pi \times$ radius $\times$ radius
$3 \times 5 \times 5 = 3 \times 25 = 75$

Answer: 75 cm^2

10 Substitution into formulae

Use the formula $C = 5m - 4n$ to work out the value of C when m = 7 and n = 8.

$C = 5 \times 7 - 4 \times 8$
$= 35 - 32 = 3$

Answer: C = 3