Day 102 **C Tier 10-a-day: Model Solutions**

1 Addition

Work out 489 + 217.

Add the hundreds, tens and units
489 + 217 = 706
Answer: 706

2 Substitution

Work out the value of 5 + w when w = 6.

5 + 6 = 11
Answer: 11

3 Best buys

Pens are sold in two packs.
Pack A has 10 and costs £5.00.
Pack B has 6 and costs £3.30.
Which pack is better value?

Pack A: 500p ÷ 10 = 50p each
Pack B: 330p ÷ 6 = 55p each
Pack A is cheaper per item
Answer: Pack A

4 Rotational symmetry

Write down the order of rotational symmetry of
(a) a parallelogram
(b) a scalene triangle

(a) A parallelogram fits onto itself 2 times in a full turn
(b) A scalene triangle fits onto itself 1 time in a full turn
Answer: (a) 2 (b) 1

5 Reading a pie chart

56 people were asked about their favourite sport.
The pie chart shows the results.
How many people chose Tennis?

The Tennis sector is a quarter of the pie chart
56 ÷ 4 = 14
Answer: 14

6 Reading straight line graphs

The graph shows the cost of a taxi journey.
(a) Work out the cost of a journey of 5 miles.
(b) Hugo pays £10 for a taxi. How many miles was the journey?

(a) Go up from 5 on the bottom axis to the line, then across: £25
(b) Go across from 10 on the cost axis to the line, then down: 2
Answer: (a) £25 (b) 2

7 Money: change

Nina buys a toy for £8.75.
Nina pays with a £20 note.
How much change does Nina get?

Change = £20 − £8.75
2000p − 875p = £11.25
Answer: £11.25

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8 Perimeter of an L-shape

The diagram shows an L-shape.
All the corners are right angles.
Work out the perimeter of the shape.
The diagram is not drawn accurately.

Find the two missing sides.
Missing horizontal side: 10 − 8 = 2
Missing vertical side: 7 − 4 = 3
Add all six sides: 10 + 4 + 2 + 3 + 8 + 7 = 34
Answer: 34 cm

9 Probability of not getting a colour

A bag contains 5 black beads, 6 green beads and 3 blue beads.
One is taken at random.
Write down the probability that it is not green.

Number that are not green: 5 + 3 = 8
Total: 14
Probability = $\frac{8}{14} = \frac{4}{7}$
Answer: $\frac{4}{7}$

10 Perimeter of a square from its area

A square mat has an area of 121 cm^2.
Work out the perimeter of the mat.

Side × side = 121, so the side is 11 cm (because 11 × 11 = 121)
Perimeter = 4 × 11 = 44
Answer: 44 cm