Day 15 **C Tier 10-a-day: Model Solutions**

1 Types of angle

Write down the type of each angle.
Choose from: acute, right, obtuse, reflex.
(a) 25°
(b) 150°

(a) 25° is less than 90°, so it is acute
(b) 150° is between 90° and 180°, so it is obtuse
Answer: (a) acute (b) obtuse

2 Substitution

Work out the value of 7 + d when d = 9.

7 + 9 = 16
Answer: 16

3 Probability with dice

A fair 10-sided dice numbered 1 to 10 is rolled.
Write down the probability of rolling
(a) an odd number
(b) a 3

(a) 5 out of 10 numbers: $\frac{5}{10} = \frac{1}{2}$

(b) 1 out of 10 numbers: $\frac{1}{10}$

Answer: (a) $\frac{1}{2}$ (b) $\frac{1}{10}$

4 Number puzzles

I think of a number.
I add 7.
My answer is 11.
What number did I think of?

Work backwards: subtract 7
11 − 7 = 4
Answer: 4

5 Map scales

On a map, 1 cm represents 50 km.
On the map, two towns are 8 cm apart.
Work out the real distance between the towns.

1 cm represents 50 km
8 × 50 = 400
Answer: 400 km

6 Time

A concert starts at 6:00 pm.
It finishes at 8:15 pm.
How long does it last?

6:00 pm to 8:00 pm is 2 hours
8:00 pm to 8:15 pm is 15 minutes
Add the parts together
Answer: 2 hours 15 minutes

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7 Proportion

2 pens cost £1.70.
Work out the cost of 5 pens.

Cost of one pen: 170p ÷ 2 = 85p
85p × 5 = 425p
425p = £4.25
Answer: £4.25

8 Angles in a triangle (words)

Two of the angles in a triangle are 60° and 66°.
Work out the size of the third angle.

Angles in a triangle add up to 180°
60 + 66 = 126
180 − 126 = 54
Answer: 54°

9 Sequences

Here are the first four terms of a sequence.
8, 11, 14, 17
Is 30 a term in this sequence?
You must show your working.

The terms go up by 3 each time
Continue the sequence: 8, 11, 14, 17, 20, 23, 26, 29, 32
30 is not in the list
Answer: No

10 Fractions of a group

A team plays 16 matches and wins 14 of them.
What fraction of the matches did the team win? Give your answer in its simplest form.

$\frac{14}{16}$

Divide top and bottom by 2: $\frac{7}{8}$

Answer: $\frac{7}{8}$