Day 347 **C Tier 10-a-day: Model Solutions**

1 Map scales

On a map, 1 cm represents 5 km.
Two towns are 45 km apart in real life.
How far apart are they on the map?

1 cm represents 5 km
45 ÷ 5 = 9
Answer: 9 cm

2 24-hour clock

Write 06:50 using am or pm.

Times before 12:00 are am
Answer: 6:50 am

3 Pay rates

Isla is paid £10 for each hour of work.
Isla is paid £40 in total.
How many hours did Isla work?

£40 ÷ £10 = 4
Answer: 4 hours

4 The nth term

The nth term of a sequence is n + 9.
Work out the 8th term of the sequence.

Put n = 8 into n + 9
8 + 9 = 17
Answer: 17

5 Fractions, decimals and percentages

Write 0.9 as a fraction in its simplest form.

$0.9 = \frac{90}{100}$
Simplify the fraction
Answer: $\frac{9}{10}$

6 Angles in parallel lines

Two parallel lines are crossed by a straight line.
Work out the size of angle y.
Give a reason for your answer.

The angles are on opposite sides of the transversal between the parallel lines, so they are alternate angles
Alternate angles are equal
y = 50°
Answer: y = 50° (alternate angles)

7 Probabilities add up to 1

A spinner has four colours.
The table shows the probability of each colour.
The probabilities add up to 1.
Work out the missing probability.

Add the known probabilities: 0.15 + 0.2 + 0.15 = 0.5
1 − 0.5 = 0.5
Answer: 0.5

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8 Coordinates

Here are three points.
(4, 0), (0, 1), (8, 6)
Which point lies on the y-axis?

A point on the y-axis has x-coordinate 0
Answer: (0, 1)

9 Division in context

Each coach holds 30 people.
82 people need a lift.
How many coaches are needed?

82 ÷ 30 = 2 remainder 22
The extra people need another coach
Answer: 3

10 Probability of not getting a colour

A bag contains 5 yellow sweets, 2 white sweets and 3 blue sweets.
One is taken at random.
Write down the probability that it is not blue.

Number that are not blue: 5 + 2 = 7
Total: 10

Probability = $\frac{7}{10}$

Answer: $\frac{7}{10}$