Day 160 **C Tier 10-a-day: Model Solutions**

1 Reading a table

The table shows the number of visitors each day.
Work out the total number of visitors on Monday and Friday.

Monday: 10, Friday: 17
10 + 17 = 27
Answer: 27

2 Reading coordinates

Write down the coordinates of
(a) point A
(b) point B

Read the x-coordinate (across) first, then the y-coordinate (up or down).
(a) A: (−1, 1)
(b) B: (2, −3)
Answer: (a) (−1, 1) (b) (2, −3)

3 Solving equations

Solve 2 + c = 15

Subtract 2 from both sides
c = 15 − 2 = 13
Answer: c = 13

4 Scaling a recipe

A recipe for a vegetable soup for 12 people uses 300 ml of milk.
Work out how much milk is needed for 6 people.

6 people is 2 times fewer than 12 people
300 ÷ 2 = 150
Answer: 150 ml

5 Rotational symmetry

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

(a) A rectangle 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

6 Coordinates

Here are three points.
(0, 8), (2, 0), (1, 5)
Which point lies on the x-axis?

A point on the x-axis has y-coordinate 0
Answer: (2, 0)

7 Expected number

The probability that a bus is late is $\frac{1}{3}$.

There are 12 buses in a week.
How many buses would you expect to be late?

Expected number = probability × number of trials
$\frac{1}{3} \times 12 = 4$
Answer: 4

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8 Midpoint of a line

P is the point (−1, 2).
Q is the point (−1, 12).
Work out the coordinates of the midpoint of PQ.

Find the number halfway between the x-coordinates: (−1 + −1) ÷ 2 = −1
Find the number halfway between the y-coordinates: (2 + 12) ÷ 2 = 7
Answer: (−1, 7)

9 Ratio, finding the other part

At a concert, the ratio of adults to children is 3 : 4.
There are 32 children.
Work out the number of adults.

32 ÷ 4 = 8 for each part
3 × 8 = 24
Answer: 24

10 Division in context

Each van holds 40 people.
152 people need a lift.
How many vans are needed?

152 ÷ 40 = 3 remainder 32
The extra people need another van
Answer: 4