Day 330 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

? ÷ 3 = 6

6 × 3 = 18

Answer: 18

2 Completing a table

The table shows the favourite sport of 40 students.

Work out the number of students for Cricket.

Add the known numbers: 5 + 9 + 10 = 24

40 − 24 = 16

Answer: 16

3 Formulae in words

Here is a rule for the height of a sunflower.

Height (cm) = 3 × number of weeks + 6

Work out the height of the sunflower after 2 weeks.

Height (cm) = 3 × 2 + 6

= 6 + 6 = 12

Answer: 12 cm

4 Number sequences

Here is a number sequence.

2, 8, 14, 20, ...

Write down the next two numbers.

The sequence goes up by 6 each time

20 + 6 = 26, 26 + 6 = 32

Answer: 26, 32

5 Map scales

On a map, 1 cm represents 2 km.

Two towns are 5 cm apart on the map.

Work out the real distance between the towns.

5 × 2 = 10

Answer: 10 km

6 Simplifying fractions

Write $\frac{5}{45}$ in its simplest form.

Divide the top and bottom by 5

$\frac{5}{45} = \frac{1}{9}$

Answer: $\frac{1}{9}$

7 Function machines

Here is a function machine.

The output is 41.

Work out the input.

Work backwards using the opposite operations

41 − 2 = 39

39 ÷ 3 = 13

Answer: 13

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8 Radius and diameter

The radius of a plate is 15 cm.
Work out the diameter.

The diameter is twice the radius
$2 \times 15 = 30$
Answer: 30 cm

9 Squares and roots

Work out 2^2.

$2^2 = 2 \times 2$
$= 4$
Answer: 4

10 Angles in a right angle

A right angle is split into two angles by a line.
Work out the size of angle p.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
$90 - 30 = 60$
Answer: p = 60°