Day 331 **C Tier 10-a-day: Model Solutions**

1 Angles in a right angle

The diagram shows a right angle split into two angles.
Work out the size of angle a.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 35 = 55
Answer: a = 55°

2 Ratio, finding the other part

In a box of beads, the ratio of red to blue is 1 : 3.
There are 6 blue.
Work out the number of red.

6 ÷ 3 = 2 for each part
1 × 2 = 2
Answer: 2

3 Radius and diameter

The diameter of a plate is 50 mm.
Work out the radius.

The radius is half the diameter
50 ÷ 2 = 25
Answer: 25 mm

4 Function machines

Here is a function machine.
Work out the output when the input is 9.

9 × 2 = 18
18 + 2 = 20
Answer: 20

5 Money: saving

Sam saves £2 each week.
How many weeks does it take to save £10?

£10 ÷ £2 = 5
Answer: 5 weeks

6 Number puzzles

Nina thinks of a number.
Nina multiplies it by 6.
The answer is 36.
What number did Nina think of?

Divide 36 by 6
36 ÷ 6 = 6
Answer: 6

7 Angles in parallel lines

Two parallel lines are crossed by a straight line.
Work out the size of angle b.
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
b = 120°
Answer: b = 120° (alternate angles)

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8 Time

A lesson starts at 3:30 pm.
It finishes at 6:50 pm.
How long does it last?

3:30 pm to 4:00 pm is 30 minutes
4:00 pm to 6:00 pm is 2 hours
6:00 pm to 6:50 pm is 50 minutes
Add the parts together
Answer: 3 hours 20 minutes

9 Stem and leaf diagrams

The stem and leaf diagram shows the times, in seconds, taken by runners.
Work out the range.

Largest = 56, smallest = 30
56 − 30 = 26
Answer: 26

10 Division in context

Each minibus holds 25 people.
87 people need a lift.
How many minibuses are needed?

87 ÷ 25 = 3 remainder 12
The extra people need another minibus
Answer: 4