Day 181 **C Tier 10-a-day: Model Solutions**

1 The range

Here are the marks in a test.
13 6 13 8 9 17 8 17
Work out the range.

Range = largest value − smallest value
17 − 6 = 11
Answer: 11

2 Ordering numbers

Write these numbers in order, starting with the largest.
547, 900, 805, 268, 434

Compare the hundreds digits first, then the tens
900, 805, 547, 434, 268
Answer: 900, 805, 547, 434, 268

3 Scaling a recipe

A recipe for a sponge cake for 2 people uses 300 g of sugar.
Work out how much sugar is needed for 6 people.

6 people is 3 times as many as 2 people
300 × 3 = 900
Answer: 900 g

4 Angles in a right angle

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

The square corner is a right angle, which is 90°
90 − 25 = 65
Answer: b = 65°

5 Division with remainders

13 marbles are shared equally between 3 children.
(a) How many does each child get?
(b) How many are left over?

13 ÷ 3 = 4 remainder 1
Answer: (a) 4 (b) 1

6 Pattern sequences

The diagram shows the first three patterns in a sequence made by Zoe.
Each pattern is made from counters.
How many counters are in Pattern 4?

The patterns have 1, 3, 6 counters
Each pattern has one more row than the last: add 1, then 2, then 3, ...
Counting on: 1, 3, 6, 10
Answer: 10

7 Reflection on a grid

The point P is drawn on the grid.
P is reflected in the line y = 4.
Write down the coordinates of the image of P.

P is (7, 3)
P is 1 squares below the line, so the image is 1 squares above
y-coordinate: 4 + 1 = 5
Answer: (7, 5)

Day 181 **C Tier 10-a-day: Model Solutions**

8 Coordinates

ABCD is a rectangle.
A is the point (9, 7), B is the point (9, 5) and C is the point (4, 5).
Write down the coordinates of D.

AB is vertical so D has the same y-coordinate as A: 7
BC is horizontal so D has the same x-coordinate as C: 4
Answer: (4, 7)

9 Time from distance and speed

A car travels 60 miles at 20 mph.
How long does the journey take?

Time = distance ÷ speed
60 ÷ 20 = 3
Answer: 3 hours

10 Sequences

Here are the first four terms of a sequence.
6, 14, 22, 30
Is 81 a term in this sequence?
You must show your working.

The terms go up by 8 each time
Continue the sequence: 6, 14, 22, 30, 38, 46, 54, 62, 70, 78, 86
81 is not in the list
Answer: No