Day 211 **C Tier 10-a-day: Model Solutions**

1 Sequences

Here are the first four terms of a sequence.
3, 9, 27, 81
(a) Write down the next term.
(b) Write down the rule for finding the next term.

(a) Each term is 3 times the one before
Next term = 243
(b) Multiply by 3 each time
Answer: (a) 243 (b) Multiply by 3

2 Length conversions

Change
(a) 6 km into m
(b) 4000 m into km

(a) 1 km = 1000 m, so multiply by 1000: 6 × 1000 = 6000
(b) 1000 m = 1 km, so divide by 1000: 4000 ÷ 1000 = 4
Answer: (a) 6000 m (b) 4 km

3 Function machines

Here is a function machine.
Work out the output when the input is 12.

12 + 6 = 18
18 + 7 = 25
Answer: 25

4 Angles in a triangle (words)

All three angles in an equilateral triangle are equal.
Work out the size of one angle.

Angles in a triangle add up to 180°
180 ÷ 3 = 60
Answer: 60°

5 Timetables

The table shows part of a bus timetable.
How long does Bus 2 take to travel from School to Station?

Leaves School at 08:15 and arrives at Station at 08:30
From 08:15 to 08:30 is 15 minutes
Answer: 15 minutes

6 Formulae in words

Here is a rule to work out the cost of hiring a bike.
Cost (£) = 2 × number of hours + 12
Work out the cost of hiring a bike for 3 hours.

Cost (£) = 2 × 3 + 12
= 6 + 12 = 18
Answer: £18

7 Multiplying multiples of 10

Work out 70 × 3.

Work out 7 × 3 = 21
Then put the zeros back on
Answer: 210

Day 211 **C Tier 10-a-day: Model Solutions**

8 Stem and leaf diagrams

The stem and leaf diagram shows the ages, in years, of people in a club.
Write down the smallest value.

The first row has the smallest stem and the first leaf is the smallest
30
Answer: 30

9 Digit cards

Here are four digit cards:
[1] [4] [7] [9]
Use all four cards to make the largest possible 4-digit number.

Put the biggest digit in the thousands column, then the next biggest, and so on
Answer: 9741

10 Pie chart angles

120 students were asked about their favourite sport.
29 of them chose football.
The results are shown in a pie chart.
Work out the angle of the sector for those students.

360° ÷ 120 = 3° for each student
29 × 3° = 87°
Answer: 87°