Day 64 **C Tier 10-a-day: Model Solutions**

1 Writing ratios

On a bus there are 11 adults and 3 children.
Write down the ratio of adults to children.

The ratio of adults to children is written 11 : 3
Answer: 11 : 3

2 Time conversions

Change 8 days into hours.

1 days = 24 hours, so multiply by 24: 8 × 24 = 192
Answer: 192 hours

3 Solving equations

Solve 15 + q = 30

Subtract 15 from both sides
q = 30 − 15 = 15
Answer: q = 15

4 Expected number

The probability that a seed grows is 0.1.
Mia plants 50 seeds.
How many seeds would you expect to grow?

Expected number = probability × number of trials
0.1 × 50 = 5
Answer: 5

5 Sequences

Here are the first four terms of a sequence.
6, 1, 7, 8
Each term is found by adding the two terms before it.
Write down the next two terms.

7 + 8 = 15
8 + 15 = 23
Answer: 15, 23

6 Estimation

Estimate the value of 53 + 48 by rounding each number to the nearest 10.

53 rounds to 50 and 48 rounds to 50
50 + 50 = 100
Answer: 100

7 Enlargement

A rectangle is 3 cm long and 6 cm wide.
It is enlarged by scale factor 3.
Write down the length and the width of the enlarged rectangle.

Multiply each length by 3
3 × 3 = 9
6 × 3 = 18
Answer: length 9 cm, width 18 cm

8 Metric units

Change 5000 ml to litres.

1 litre = 1000 ml
5000 ÷ 1000 = 5
Answer: 5 litres

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9 The nth term

The nth term of a sequence is $2n - 1$.
Write down the first three terms of the sequence.

Put $n = 1, 2, 3$ into $2n - 1$
$2 \times 1 - 1 = 1$
$2 \times 2 - 1 = 3$
$2 \times 3 - 1 = 5$
Answer: 1, 3, 5

10 Pie chart angles

30 students were asked about their way of travelling to school.
4 of them walk to school.
The results are shown in a pie chart.
Work out the angle of the sector for those students.

$360° \div 30 = 12°$ for each student
$4 \times 12° = 48°$
Answer: 48°