Day 302 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

? ÷ 3 = 9

9 × 3 = 27

Answer: 27

2 Tally charts

The tally chart shows the pets owned by some students.

Write down the frequency for Bird.

Each group of 5 is 5 and any extra lines are added on

Bird: 1 group of 5 and 2 = 5 × 1 + 2 = 7

Answer: 7

3 Volume by counting cubes

A toy box holds 1 cm cubes in layers.

Each layer is 5 cubes long and 5 cubes wide.

There are 2 layers.

How many cubes are there altogether?

Cubes in one layer: 5 × 5 = 25

Number of layers: 2

25 × 2 = 50

Answer: 50 cubes

4 Time from distance and speed

A cyclist travels 20 km at 10 km/h.

How long does the journey take?

Time = distance ÷ speed

20 ÷ 10 = 2

Answer: 2 hours

5 Simplifying expressions

Simplify 7a + 2a + 3d + 3d

Collect the a terms: 7 + 2 = 9a

Collect the d terms: 3 + 3 = 6d

Answer: 9a + 6d

6 Reading a scale

The diagram shows part of a measuring scale.

Write down the reading shown by the arrow.

The labelled marks go up in 100. There are 5 small steps between labelled marks, so each small step is 100 ÷ 5 = 20.

The arrow is 2 small steps after 200.

200 + 2 × 20 = 240

Answer: 240 g

7 Estimation

Estimate the value of 49 + 67 by rounding each number to the nearest 10.

49 rounds to 50 and 67 rounds to 70

50 + 70 = 120

Answer: 120

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8 Perimeter of a square from its area

A square patio has an area of 49 m^2.
Work out the perimeter of the patio.

Side × side = 49, so the side is 7 m (because 7 × 7 = 49)
Perimeter = 4 × 7 = 28
Answer: 28 m

9 Expected number

The probability that a seed grows is $\frac{2}{5}$.

Mia plants 15 seeds.
How many seeds would you expect to grow?

Expected number = probability × number of trials
$\frac{2}{5} \times 15 = 6$
Answer: 6

10 Coordinates

ABCD is a rectangle.
A is the point (5, 9), B is the point (5, 6) and C is the point (0, 6).
Write down the coordinates of D.

AB is vertical so D has the same y-coordinate as A: 9
BC is horizontal so D has the same x-coordinate as C: 0
Answer: (0, 9)