Day 46 **C Tier 10-a-day: Model Solutions**

1 Place value

Write down the value of the digit 7 in the number 7546.

The digit 7 is in the thousands column
7 × 1000 = 7000
Answer: 7000

2 Bar charts

The bar chart shows the pets owned by some students.
How many more students for Fish than for Rabbit?

Fish: 40 Rabbit: 25
40 − 25 = 15
Answer: 15

3 Collecting like terms

Simplify 5h − 4h

All the terms are in h, so just add or subtract the numbers in front of h
Answer: h

4 Timetables

The table shows the times of two buses.
How many minutes does Bus 1 take to go from Derby to Leeds?

08:45 − 08:30
Count on from 08:30 to 08:45
Answer: 15 minutes

5 Probability of an event not happening

The probability that a seed grows is $\frac{11}{12}$.

Work out the probability that this does not happen.

P(not) = 1 − P(event)
$1 - \frac{11}{12} = \frac{1}{12}$
Answer: $\frac{1}{12}$

6 Money: totals

Isla buys a sandwich and a drink.
A sandwich costs £1.35.
A drink costs £1.70.
Work out the total cost.

£1.35 + £1.70
135p + 170p = 305p = £3.05
Answer: £3.05

7 Midpoint of a line

C is the point (0, 7).
D is the point (4, 7).
Work out the coordinates of the midpoint of CD.

Find the number halfway between the x-coordinates: (0 + 4) ÷ 2 = 2
Find the number halfway between the y-coordinates: (7 + 7) ÷ 2 = 7
Answer: (2, 7)

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8 Substitution

Work out the value of p^3 when p = 5.

p^3 means p × p × p
5 × 5 × 5 = 125
Answer: 125

9 Volume of a cuboid

The diagram shows a cuboid.
Work out the volume of the cuboid.
The diagram is not drawn accurately.

Volume = length × width × height
5 × 5 × 2
5 × 5 = 25, then 25 × 2 = 50
Answer: 50 m^3

10 Forming and solving equations

Kim has x stickers.
A friend gives Kim 15 more stickers.
Kim now has 38 stickers.
(a) Write down an equation using x.
(b) Solve your equation to find how many stickers Kim had at the start.

(a) x + 15 = 38
(b) x = 38 − 15 = 23
Answer: (a) x + 15 = 38 (b) x = 23