Day 183 **C Tier 10-a-day: Model Solutions**

1 Bar charts

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

Dog: 15 Fish: 8
15 − 8 = 7
Answer: 7

2 Writing expressions

Simplify 3 × d

Write the number first, then the letters in alphabetical order, with no × signs
Answer: 3d

3 Angles in a right angle

The diagram shows a right angle split into two angles.
Work out the size of angle a.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 45 = 45
Answer: a = 45°

4 Rates

A baker makes 2 loaves each hour.
How many loaves does the baker make in 2 hours?

2 × 2 = 4
Answer: 4 loaves

5 Money: saving

Ravi saves £10 each week.
How many weeks does it take to save £40?

£40 ÷ £10 = 4
Answer: 4 weeks

6 Substitution

Work out the value of p^3 when p = 4.

p^3 means p × p × p
4 × 4 × 4 = 64
Answer: 64

7 Midpoint of a line

A is the point (1, 3).
B is the point (11, 3).
Work out the coordinates of the midpoint of AB.

Find the number halfway between the x-coordinates: (1 + 11) ÷ 2 = 6
Find the number halfway between the y-coordinates: (3 + 3) ÷ 2 = 3
Answer: (6, 3)

8 Inequalities

n is a whole number.
Write down all the possible values of n when
3 < n < 7

n is bigger than 3 and smaller than 7
The smallest whole number is 4 and the largest is 6
Answer: 4, 5, 6

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9 Negative numbers: temperature

The temperature is 2°C.
It falls by 4°C.
What is the new temperature?

$2 - 4 = -2$

Answer: −2°C

10 Finding a missing value from the mean

The mean of five numbers is 4.
Four of the numbers are 3, 1, 8 and 6.
Work out the other number.

Total of all the numbers: $4 \times 5 = 20$
Total of those given: $3 + 1 + 8 + 6 = 18$
$20 - 18 = 2$

Answer: 2