Day 336 **C Tier 10-a-day: Model Solutions**

1 Midpoint of a line

A is the point (3, 1).
B is the point (5, 1).
Work out the coordinates of the midpoint of AB.

Find the number halfway between the x-coordinates: (3 + 5) ÷ 2 = 4
Find the number halfway between the y-coordinates: (1 + 1) ÷ 2 = 1
Answer: (4, 1)

2 Probability of an event not happening

The probability that a seed grows is $\frac{1}{4}$.

Work out the probability that this does not happen.

P(not) = 1 − P(event)
$1 - \frac{1}{4} = \frac{3}{4}$

Answer: $\frac{3}{4}$

3 Reading coordinates

Write down the coordinates of
(a) point B
(b) point C

Read the x-coordinate (across) first, then the y-coordinate (up or down).
(a) B: (1, 3)
(b) C: (4, 4)
Answer: (a) (1, 3) (b) (4, 4)

4 Simplifying expressions

Simplify 6c + 1 − 4c

Letters: 6c − 4c = 2c
Numbers: 1 on its own
Answer: 2c + 1

5 Timetables

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

10:25 − 10:00
Count on from 10:00 to 10:25
Answer: 25 minutes

6 Reading straight line graphs

The graph shows the cost of printing photos.
(a) Work out the cost of printing 4 photos.
(b) Hugo spends £12 printing photos. How many photos does Hugo print?

(a) Go up from 4 on the bottom axis to the line, then across: £16
(b) Go across from 12 on the cost axis to the line, then down: 3
Answer: (a) £16 (b) 3

7 Negative numbers

Work out −5 + 2.

Use a number line
−5 + 2 = −3
Answer: −3

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8 Sequences

Here are the first four terms of a sequence.
4, 11, 18, 25
Is 67 a term in this sequence?
You must show your working.

The terms go up by 7 each time
Continue the sequence: 4, 11, 18, 25, 32, 39, 46, 53, 60, 67, 74
67 is in the list
Answer: Yes

9 Venn diagrams

Some students were asked whether they like swimming or cycling.
The Venn diagram shows the results.
How many students are in at least one circle?

Add the numbers inside the circles: 12 + 6 + 11 = 29
Answer: 29

10 Division with remainders

22 sweets are shared equally between 6 children.
(a) How many does each child get?
(b) How many are left over?

22 ÷ 6 = 3 remainder 4
Answer: (a) 3 (b) 4