Day 293 **C Tier 10-a-day: Model Solutions**

1 Addition

Work out 210 + 125.

Add the hundreds, tens and units
210 + 125 = 335
Answer: 335

2 Average speed

A bus travels 160 km in 4 hours.
Work out its average speed.

Speed = distance ÷ time
160 ÷ 4 = 40
Answer: 40 km/h

3 Writing expressions

Zoe has y cards.
Ella has 3 more cards than Zoe.
Write an expression for the number of cards that Ella has.

3 more than y is y + 3
Answer: y + 3

4 Reflecting a point

The point P has coordinates (1, −2).
P is reflected in the line x = 2.
Write down the coordinates of the image of P.

The point is 1 from the line, so the image is 1 on the other side: 2 + 1 = 3
Answer: (3, −2)

5 The median of an even number of values

Here are the numbers of books read by some students.
2 4 11 10
Work out the median.

Put the numbers in order: 2 4 10 11
The middle two numbers are 4 and 10
Halfway between them: (4 + 10) ÷ 2 = 7
Answer: 7

6 Multiplying multiples of 10

Work out 70 × 4.

Work out 7 × 4 = 28
Then put the zeros back on
Answer: 280

7 Sampling

Noah wants to find out how much exercise people take.
Noah asks people leaving a gym.
Give a reason why this sample may be biased.

People at a gym are more likely to exercise a lot
Answer: People at a gym are more likely to exercise a lot

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8 Shaded area

The diagram shows a rectangle with a smaller rectangle cut out of it.
Work out the area of the shaded part.
The diagram is not drawn accurately.

Big rectangle: 13 × 9 = 117
Small rectangle: 6 × 5 = 30
Shaded area: 117 − 30 = 87

Answer: 87 cm^2

9 The nth term

The nth term of a sequence is 5n − 1.
Work out the 9th term of the sequence.

Put n = 9 into 5n − 1
5 × 9 − 1 = 44

Answer: 44

10 Cost from perimeter

A rectangular field is 14 m long and 9 m wide.
Fencing costs £4 per metre.
Work out the cost of putting fence all the way round the field.

Perimeter = 14 + 9 + 14 + 9 = 46 m
Cost = 46 × £4 = £184

Answer: £184