Day 277 **C Tier 10-a-day: Model Solutions**

1 Writing ratios

A fruit bowl has 2 apples and 3 pears.
Write down the ratio of pears to apples.

The ratio of pears to apples is written 3 : 2
Answer: 3 : 2

2 Number puzzles

Chen thinks of a number.
Chen subtracts 12.
The answer is 7.
What number did Chen think of?

Add 12 to 7
7 + 12 = 19
Answer: 19

3 Reading a clock

Write down the time shown on the clock.

The minute hand points to 4, which is 4 × 5 = 20 minutes past, and the hour hand has passed the 8
The time is 8:20
Answer: 8:20

4 Rates

A hose uses 2 litres of water each minute.
How many litres does it use in 4 minutes?

2 × 4 = 8
Answer: 8 litres

5 Translating a point

The point A has coordinates (−4, 4).
A is moved 6 right and 5 down.
Write down the coordinates of the new point.

x-coordinate: −4 + 6 = 2
y-coordinate: 4 − 5 = −1
Answer: (2, −1)

6 Missing numbers

Find the missing number.
? ÷ 9 = 7

7 × 9 = 63
Answer: 63

7 Cost from area

A rectangular floor is 8 m long and 6 m wide.
Carpet costs £5 per m^2.
Work out the cost of covering the floor.

Area = 8 × 6 = 48 m^2
Cost = 48 × £5 = £240
Answer: £240

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8 Expected number

The probability that a bus is late is 0.5.
There are 200 buses in a week.
How many buses would you expect to be late?

Expected number = probability × number of trials
0.5 × 200 = 100
Answer: 100

9 Sequences

Here are the first four terms of a sequence.
2, 6, 10, 14
Is 38 a term in this sequence?
You must show your working.

The terms go up by 4 each time
Continue the sequence: 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 42
38 is in the list
Answer: Yes

10 Squares and roots

Work out $\sqrt{16}$.

4 × 4 = 16
So the square root of 16 is 4
Answer: 4