Day 96 **C Tier 10-a-day: Model Solutions**

1 Venn diagrams

Some students were asked whether they play football or netball.
The Venn diagram shows the results.
How many students play football?

Add the number in the football circle: 3 + 5 = 8
Answer: 8

2 Time

A bus journey starts at 3:30 pm.
It lasts for 25 minutes.
At what time does it finish?

3:30 pm + 25 minutes = 3:55 pm
Answer: 3:55 pm

3 Scatter graphs

The scatter graph shows information about hours of revision and test mark.
What type of correlation does the scatter graph show?

As hours of revision increases, test mark also increases
This is positive correlation
Answer: Positive correlation

4 Time conversions

Change
(a) 72 months into years
(b) 72 hours into days

(a) 12 months = 1 years, so divide by 12: 72 ÷ 12 = 6
(b) 24 hours = 1 days, so divide by 24: 72 ÷ 24 = 3
Answer: (a) 6 years (b) 3 days

5 Number puzzles

Tara thinks of a number.
Tara multiplies it by 4.
The answer is 16.
What number did Tara think of?

Divide 16 by 4
16 ÷ 4 = 4
Answer: 4

6 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
6 × 6 × 4
6 × 6 = 36, then 36 × 4 = 144
Answer: 144 cm^3

7 Ordering fractions

Write these fractions in order, starting with the largest.
$\frac{8}{12}, \frac{3}{12}, \frac{1}{12}$

The denominators are all 12, so compare the numerators
8, 3, 1 (numerators in order)
Answer: $\frac{8}{12}, \frac{3}{12}, \frac{1}{12}$

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8 Missing side from area

A rectangular rug has an area of 54 m^2.
Its length is 9 m.
Work out its width.

Area = length × width
54 = 9 × width
width = 54 ÷ 9 = 6
Answer: 6 m

9 Pattern sequences

The diagram shows the first three patterns in a sequence made by Jon.
Each pattern is made from dots.
How many dots are in Pattern 4?

The patterns have 1, 3, 6 dots
Each pattern has one more row than the last: add 1, then 2, then 3, ...
Counting on: 1, 3, 6, 10
Answer: 10

10 Order of operations

Work out 9 + 4 × 9.

Multiply first
4 × 9 = 36
9 + 36 = 45
Answer: 45