Day 159 **C Tier 10-a-day: Model Solutions**

1 The median

Here are the shoe sizes of some students.
9 9 9 9 4 5 8 9 5
Work out the median.

Put the numbers in order: 4 5 5 8 9 9 9 9 9
The middle number is 9
Answer: 9

2 Units of time

How many months are there in 8 years?

1 year = 12 months
8 × 12 = 96
Answer: 96

3 Pictograms

The pictogram shows the number of apples sold in a shop.
How many more apples on Thu than on Mon?

Thu: 2.5 × 10 = 25
Mon: 2.5 × 10 = 25
25 − 25 = 0
Answer: 0

4 Powers

Work out $7^2 + 3$.

$7^2 = 49$
49 + 3 = 52
Answer: 52

5 Area of a triangle

The diagram shows a triangle.
Work out the area of the triangle.
The diagram is not drawn accurately.

Area of a triangle = base × height ÷ 2
12 × 3 = 36
36 ÷ 2 = 18
Answer: 18 cm^2

6 Special sequences

Here are the first four terms of a sequence.
10, 15, 21, 28
Write down the next term.

The gaps go up by 1 each time: 5, 6, 7, ...
The next gap is 8, so 28 + 8 = 36
Answer: 36

7 Digit cards

Here are four digit cards:
[8] [2] [5] [6]
Use all four cards to make the largest possible 4-digit number.

Put the biggest digit in the thousands column, then the next biggest, and so on
Answer: 8652

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8 Simplifying expressions

Simplify 9b + 9 − 7b

Letters: 9b − 7b = 2b
Numbers: 9 on its own
Answer: 2b + 9

9 Probabilities add up to 1

A bag has four colours.
The table shows the probability of each colour.
The probabilities add up to 1.
Work out the missing probability.

Add the known probabilities: 0.45 + 0.15 + 0.1 = 0.7
1 − 0.7 = 0.3
Answer: 0.3

10 Perimeter from area

A rectangular poster has an area of 104 m^2.
Its width is 8 m.
Work out the perimeter of the poster.

Length = area ÷ width = 104 ÷ 8 = 13
Perimeter = 13 + 8 + 13 + 8 = 42
Answer: 42 m