Day 172 **C Tier 10-a-day: Model Solutions**

1 Even and odd numbers

Write down all the even numbers in this list.
56, 22, 25, 90, 45

Even numbers end in 0, 2, 4, 6 or 8
Answer: 56, 22, 90

2 Angles in a right angle

The diagram shows a right angle split into two angles.
Work out the size of angle y.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 30 = 60
Answer: y = 60°

3 Writing expressions

Gita has x stickers.
Kim has 9 more stickers than Gita.
Write an expression for the number of stickers that Kim has.

9 more than x is x + 9
Answer: x + 9

4 Mass and capacity conversions

Change
(a) 0.5 litres into cl
(b) 8000 ml into litres

(a) 1 litres = 100 cl, so multiply by 100: 0.5 × 100 = 50
(b) 1000 ml = 1 litres, so divide by 1000: 8000 ÷ 1000 = 8
Answer: (a) 50 cl (b) 8 litres

5 The median of an even number of values

Here are the times, in minutes, of some bus journeys.
27 21 6 13
Work out the median.

Put the numbers in order: 6 13 21 27
The middle two numbers are 13 and 21
Halfway between them: (13 + 21) ÷ 2 = 17
Answer: 17

6 Ordering decimals

Write these numbers in order, starting with the smallest.
0.71, 0.7, 0.65, 0.75

Write each with the same number of decimal places
0.65, 0.70, 0.71, 0.75
Answer: 0.65, 0.7, 0.71, 0.75

7 Relative frequency

A coin is flipped 50 times and lands on heads 8 times.
Estimate the probability that it lands on heads next time.
Give your answer as a fraction in its simplest form.

Relative frequency = $\frac{8}{50}$

= $\frac{4}{25}$

Answer: $\frac{4}{25}$

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8 Pattern sequences

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

Pattern n is n rows of (n + 1): 1 × 2, 2 × 3, 3 × 4
Pattern 4 is 4 × 5 = 20
Answer: 20

9 Multiples: smallest common

Find the smallest number that is a multiple of both 5 and 7.

Multiples of 5: 5, 10, 15, 20, 25, 30, 35
Multiples of 7: 7, 14, 21, 28, 35
35 is in both lists
Answer: 35

10 Cost from area

A rectangular patio is 5 m long and 4 m wide.
Paving costs £8 per m^2.
Work out the cost of covering the patio.

Area = 5 × 4 = 20 m^2
Cost = 20 × £8 = £160
Answer: £160