Day 86 **C Tier 10-a-day: Model Solutions**

1 Cost of several items

A pen costs 85p.
Work out the cost of 5 pens.
Give your answer in pounds.

85p × 5 = 425p
425p = £4.25
Answer: £4.25

2 Substitution

Work out the value of 16 − n when n = 3.

16 − 3 = 13
Answer: 13

3 The range

Here are the numbers of goals scored by a team in some matches.
6 1 4 1 5 0
Work out the range.

Range = largest value − smallest value
6 − 0 = 6
Answer: 6

4 Vertically opposite angles

The diagram shows two straight lines crossing.
(a) Work out the size of angle x.
(b) Work out the size of angle b.
The diagram is not drawn accurately.

(a) Vertically opposite angles are equal
x = 115°
(b) Angles on a straight line add up to 180°
180 − 115 = 65
Answer: (a) x = 115° (b) b = 65°

5 Metric units

Change 2000 g to kilograms.

1 kg = 1000 g
2000 ÷ 1000 = 2
Answer: 2 kg

6 Simplifying expressions

Simplify 2q + 5q + 2c + 5c

Collect the c terms: 2 + 5 = 7c
Collect the q terms: 2 + 5 = 7q
Answer: 7c + 7q

7 Number puzzles

I think of a number.
I add 10.
My answer is 13.
What number did I think of?

Work backwards: subtract 10
13 − 10 = 3
Answer: 3

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8 Best buys

Pens are sold in two packs.
Pack A has 2 and costs £1.00.
Pack B has 4 and costs £2.40.
Which pack is better value?

Pack A: 100p ÷ 2 = 50p each
Pack B: 240p ÷ 4 = 60p each
Pack A is cheaper per item
Answer: Pack A

9 Perimeter of a square from its area

A square tile has an area of 25 cm^2.
Work out the perimeter of the tile.

Side × side = 25, so the side is 5 cm (because 5 × 5 = 25)
Perimeter = 4 × 5 = 20
Answer: 20 cm

10 Equations of lines

A straight line passes through the points
(1, 7), (2, 7), (7, 7)
Write down the equation of the line.

Every point has y-coordinate 7, so the line is horizontal
Answer: y = 7