**Day 63** **C Tier 10-a-day: Model Solutions**

## 1 Missing numbers

Find the missing number.
? ÷ 9 = 10

10 × 9 = 90
**Answer: 90**

## 2 Perimeter on a square grid

The diagram shows a shape drawn on a square grid.
Each square has a side of length 1 cm.
Work out the perimeter of the shape.

Count the length of each side going round the shape.
2 + 1 + 3 + 3 + 3 + 1 + 2 + 3 = 18
**Answer: 18 cm**

## 3 Number puzzles

Ali thinks of a number.
Ali adds 8.
The answer is 20.
What number did Ali think of?

Subtract 8 from 20
20 − 8 = 12
**Answer: 12**

## 4 Length conversions

Change
(a) 12000 m into km
(b) 70 mm into cm

(a) 1000 m = 1 km, so divide by 1000: 12000 ÷ 1000 = 12
(b) 10 mm = 1 cm, so divide by 10: 70 ÷ 10 = 7
**Answer: (a) 12 km (b) 7 cm**

## 5 Probabilities add up to 1

A spinner 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: 0.15 + 0.4 + 0.05 = 0.6
1 − 0.6 = 0.4
**Answer: 0.4**

## 6 Equations of lines

A straight line passes through the points
(1, 1), (5, 5), (6, 6)
Write down the equation of the line.

In every point the y-coordinate is equal to the x-coordinate
**Answer: y = x**

## 7 Ratio, finding the other part

At a rescue centre, the ratio of cats to dogs is 3 : 2.
There are 21 cats.
Work out the number of dogs.

21 ÷ 3 = 7 for each part
2 × 7 = 14
**Answer: 14**

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## 8 Money

A pencil case costs 89p.
Work out the cost of 9 pencil cases.
Give your answer in pounds.

89p × 9 = 801p
801p = £8.01
**Answer: £8.01**

## 9 Coordinates

ABCD is a rectangle.
A is the point (1, 0), B is the point (1, 5) and C is the point (5, 5).
Write down the coordinates of D.

AB is vertical so D has the same y-coordinate as A: 0
BC is horizontal so D has the same x-coordinate as C: 5
**Answer: (5, 0)**

## 10 Cost from perimeter

A rectangular pond is 12 m long and 10 m wide.
Edging costs £3 per metre.
Work out the cost of putting edging all the way round the pond.

Perimeter = 12 + 10 + 12 + 10 = 44 m
Cost = 44 × £3 = £132
**Answer: £132**