Day 216 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 2m when m = 4.

2m means 2 × m
2 × 4 = 8
Answer: 8

2 Subtraction

Work out 338 − 135.

338 − 135 = 203
Answer: 203

3 Collecting like terms

Simplify k + k + k

All the terms are in k, so just add or subtract the numbers in front of k
Answer: 3k

4 Money: wages

Uzma earns £12 for each hour of work.
Uzma works for 5 hours.
How much does Uzma earn?

£12 × 5 = £60
Answer: £60

5 Map scales

On a map, 1 cm represents 10 km.
On the map, two towns are 11 cm apart.
Work out the real distance between the towns.

1 cm represents 10 km
11 × 10 = 110
Answer: 110 km

6 Using formulae

The distance, d km, travelled in t hours is given by the formula d = 2t.
(a) Work out the value of d when t = 2.
(b) Work out the value of t when d = 8.

(a) d = 2 × 2 = 4
(b) 2t = 8, so t = 8 ÷ 2 = 4
Answer: (a) d = 4 (b) t = 4

7 Average speed

A bus travels 180 km in 6 hours.
Work out its average speed.

Speed = distance ÷ time
180 ÷ 6 = 30
Answer: 30 km/h

8 Perimeter of a square from its area

A square tile has an area of 49 cm^2.
Work out the perimeter of the tile.

Side × side = 49, so the side is 7 cm (because 7 × 7 = 49)
Perimeter = 4 × 7 = 28
Answer: 28 cm

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9 Money: change

Priya buys a gift for £4.40.
Priya pays with a £10 note.
How much change does Priya get?

Change = £10 − £4.40
1000p − 440p = £5.60
Answer: £5.60

10 Finding a missing value from the mean

The mean of four numbers is 6.
Three of the numbers are 7, 2 and 9.
Work out the other number.

Total of all the numbers: 6 × 4 = 24
Total of those given: 7 + 2 + 9 = 18
24 − 18 = 6
Answer: 6