Day 325 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 8z when z = 5.

8z means 8 × z
8 × 5 = 40
Answer: 40

2 Bar charts

The bar chart shows the favourite colour of some children.
Work out the total number of children.

9 + 4 + 7 + 10 = 30
Answer: 30

3 Solving equations

Solve t − 8 = 8

Add 8 to both sides
t = 8 + 8 = 16
Answer: t = 16

4 Probabilities add up to 1

A game uses a four-coloured spinner.
The table shows the probability of each colour.
The probabilities add up to 1.
Work out the missing probability.

Add the known probabilities: 0.2 + 0.05 + 0.45 = 0.7
1 − 0.7 = 0.3
Answer: 0.3

5 Duration of a journey

A football match starts at 9:30 am and ends at 10:35 am.
How long does the match last?

Count on from 9:30 am to 10:35 am:
30 minutes to 10:00 am
35 minutes to 10:35 am
Total: 1 hour 5 minutes
Answer: 1 hour 5 minutes

6 Multiplication

Work out 31 × 4.

30 × 4 = 120 and 1 × 4 = 4
120 + 4 = 124
Answer: 124

7 Coordinates

Write down the coordinates of
(a) point E
(b) point B

Go across first (x), then up (y)
E is 1 across and 4 up
B is 4 across and 3 up
Answer: (a) (1, 4) (b) (4, 3)

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8 Prime numbers

Write down the prime number in this list.
25, 9, 23, 35

A prime number has exactly two factors, 1 and itself
25 = 5 × 5
9 = 3 × 3
35 = 5 × 7
Answer: 23

9 Probability of not getting a colour

A bag contains 2 green beads, 6 black beads and 7 blue beads.
One is taken at random.
Write down the probability that it is not blue.

Number that are not blue: 2 + 6 = 8
Total: 15
Probability = $\frac{8}{15}$
Answer: $\mathbf{\frac{8}{15}}$

10 Cost from perimeter

A rectangular field is 12 m long and 4 m wide.
Fencing costs £10 per metre.
Work out the cost of putting fence all the way round the field.

Perimeter = 12 + 4 + 12 + 4 = 32 m
Cost = 32 × £10 = £320
Answer: £320