Day 298 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 6y when y = 7.

6y means 6 × y
6 × 7 = 42
Answer: 42

2 Even and odd numbers

Write down all the odd numbers in this list.
31, 91, 12, 92, 83

Odd numbers end in 1, 3, 5, 7 or 9
Answer: 31, 91, 83

3 Solving equations

Solve 7p = 77

7p means 7 × p, so divide both sides by 7
p = 77 ÷ 7 = 11
Answer: p = 11

4 Probability from a bag

A bag contains 5 green and 7 blue counters.
One is taken at random.
Write down the probability that it is blue.

There are 12 in total, and 7 are blue

Probability = $\frac{7}{12}$

Answer: $\frac{7}{12}$

5 Simplifying expressions

Simplify 5a + 6p + 3p + 7a

Collect the a terms: 5 + 7 = 12a
Collect the p terms: 6 + 3 = 9p
Answer: 12a + 9p

6 Multiplying and dividing by 10 and 100

Work out 6.43 × 100.

Multiplying by 100 moves each digit 2 places to the left
Answer: 643

7 Duration of a journey

A film starts at 2:45 pm and finishes at 4:25 pm.
How long is the film?

Count on from 2:45 pm to 4:25 pm:
15 minutes to 3:00 pm
1 hour to 4:00 pm
25 minutes to 4:25 pm
Total: 1 hour 40 minutes
Answer: 1 hour 40 minutes

8 Ordering numbers

Write these numbers in order, starting with the largest.
353, 239, 176, 755, 244

Compare the hundreds digits first, then the tens
755, 353, 244, 239, 176
Answer: 755, 353, 244, 239, 176

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9 Probability of not getting a colour

A bag contains 3 blue sweets, 4 yellow sweets and 5 red sweets.
One is taken at random.
Write down the probability that it is not yellow.

Number that are not yellow: 3 + 5 = 8
Total: 12

Probability = $\frac{8}{12} = \frac{2}{3}$

Answer: $\frac{2}{3}$

10 Missing side from area

A rectangular garden has an area of 48 cm^2.
Its length is 8 cm.
Work out its width.

Area = length × width
48 = 8 × width
width = 48 ÷ 8 = 6
Answer: 6 cm