Day 306 **C Tier 10-a-day: Model Solutions**

1 Percentages of amounts

Work out 10% of 220.

10% = $\frac{1}{10}$, so divide by 10

220 ÷ 10 = 22

Answer: 22

2 Reading a table

The table shows the favourite colour of some children.
How many more children for Red than for Blue?

Red: 16 Blue: 11

16 − 11 = 5

Answer: 5

3 Even and odd numbers

Write down the next odd number after 98.

Odd numbers end in 1, 3, 5, 7 or 9

Count up from 98

Answer: 99

4 Substitution

m = 3 and n = 6
Work out the value of
(a) m + 3n
(b) m + n

(a) 3 + 3 × 6 = 21

(b) 3 + 6 = 9

Answer: (a) 21 (b) 9

5 Digit cards

Here are four digit cards:
[9] [1] [4] [3]
Use all four cards to make the smallest possible 4-digit number.

Put the smallest digit in the thousands column, then the next smallest, and so on

Answer: 1349

6 Time from distance and speed

A train travels 120 miles at 20 mph.
How long does the journey take?

Time = distance ÷ speed

120 ÷ 20 = 6

Answer: 6 hours

7 Cost from area

A rectangular patio is 3 m long and 5 m wide.
Paving costs £5 per m^2.
Work out the cost of covering the patio.

Area = 3 × 5 = 15 m^2

Cost = 15 × £5 = £75

Answer: £75

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8 Sampling

Leah wants to find out how much money people spend on books.
Leah asks only people in a bookshop.
Give a reason why this sample may be biased.

People in a bookshop are more likely to spend a lot on books
Answer: People in a bookshop are more likely to spend a lot on books

9 The nth term

The nth term of a sequence is 2n + 1.
Work out the 8th term of the sequence.

Put n = 8 into 2n + 1
2 × 8 + 1 = 17
Answer: 17

10 Perimeter of a square from its area

A square mat has an area of 36 cm^2.
Work out the perimeter of the mat.

Side × side = 36, so the side is 6 cm (because 6 × 6 = 36)
Perimeter = 4 × 6 = 24
Answer: 24 cm