Day 143 **C Tier 10-a-day: Model Solutions**

1 24-hour clock

Write 18:50 using the 12-hour clock.
Use am or pm in your answer.

Times after 12:00 are pm: subtract 12 from the hour, 18 − 12 = 6
18:50 = 6:50 pm
Answer: 6:50 pm

2 Writing numbers in words

Write the number 8585 in words.

Split the number: 8000 + 500 + 85
Answer: eight thousand five hundred and eighty-five

3 Probability with dice

A fair six-sided dice is rolled.
Write down the probability of rolling
(a) a 3
(b) a 5

(a) 1 out of 6 numbers: $\frac{1}{6}$

(b) 1 out of 6 numbers: $\frac{1}{6}$

Answer: (a) $\frac{1}{6}$ (b) $\frac{1}{6}$

4 Solving equations

Solve 5x = 55

5x means 5 × x, so divide both sides by 5
x = 55 ÷ 5 = 11
Answer: x = 11

5 Perimeter of a regular polygon

The perimeter of a regular pentagon is 25 cm.
Work out the length of one side.

A regular pentagon has 5 equal sides
25 ÷ 5 = 5
Answer: 5 cm

6 Time

A party starts at 6:50 pm.
It finishes at 8:40 pm.
How long does it last?

6:50 pm to 7:00 pm is 10 minutes
7:00 pm to 8:00 pm is 1 hour
8:00 pm to 8:40 pm is 40 minutes
Add the parts together
Answer: 1 hour 50 minutes

7 Enlargement

A square has sides of length 9 cm.
It is enlarged by scale factor 5.
Work out the length of a side of the enlarged square.

Multiply the side by the scale factor
9 × 5 = 45
Answer: 45 cm

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8 Expressions for perimeter

An equilateral triangle has sides of length z cm.
Write an expression for the perimeter of the shape.
Give your answer in its simplest form.

Perimeter = z + z + z
= 3z
Answer: 3z cm

9 Sampling

Omar wants to find out how much money people spend on books.
Omar 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

10 Division in context

Each coach holds 25 people.
72 people need a lift.
How many coaches are needed?

72 ÷ 25 = 2 remainder 22
The extra people need another coach
Answer: 3