Day 307 **C Tier 10-a-day: Model Solutions**

1 Rates

A tap fills a bath at 12 litres each minute.
How many litres are in the bath after 4 minutes?

12 × 4 = 48
Answer: 48 litres

2 Rotational symmetry

Write down the order of rotational symmetry of
(a) a rhombus
(b) a scalene triangle

(a) A rhombus fits onto itself 2 times in a full turn
(b) A scalene triangle fits onto itself 1 time in a full turn
Answer: (a) 2 (b) 1

3 Multiples

Here is a list of numbers.
64, 15, 58, 21, 69
Write down the multiple of 5.

Check which number is in the 5 times table
5 × 3 = 15
Answer: 15

4 Timetables

The table shows part of a bus timetable.
Priya arrives at Market at 09:47.
What is the time of the next bus from Market?

Look along the Market row for the first time after 09:47
The next bus is at 09:50
Answer: 09:50

5 Time

A lesson starts at 8:45 pm.
It finishes at 10:05 pm.
How long does it last?

8:45 pm to 9:00 pm is 15 minutes
9:00 pm to 10:00 pm is 1 hour
10:00 pm to 10:05 pm is 5 minutes
Add the parts together
Answer: 1 hour 20 minutes

6 Substitution

b = 7 and m = 8
Work out the value of
(a) 2b + m
(b) b + 3m

(a) 2 × 7 + 8 = 22
(b) 7 + 3 × 8 = 31
Answer: (a) 22 (b) 31

7 Estimation

Estimate the value of 36 + 39 by rounding each number to the nearest 10.

36 rounds to 40 and 39 rounds to 40
40 + 40 = 80
Answer: 80

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8 Cost from perimeter

A rectangular field is 13 m long and 9 m wide.
Fencing costs £10 per metre.
Work out the cost of putting fence all the way round the field.

Perimeter = 13 + 9 + 13 + 9 = 44 m
Cost = 44 × £10 = £440
Answer: £440

9 The nth term

The nth term of a sequence is 4n − 2.
Write down the first three terms of the sequence.

Put n = 1, 2, 3 into 4n − 2
4 × 1 − 2 = 2
4 × 2 − 2 = 6
4 × 3 − 2 = 10
Answer: 2, 6, 10

10 Venn diagrams

Some students were asked whether they like pizza or pasta.
The Venn diagram shows the results.
How many students are in at least one circle?

Add the numbers inside the circles: 7 + 2 + 6 = 15
Answer: 15