Day 131 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

19 − ? = 10

19 − 10 = 9

Answer: 9

2 Place value

Write down the value of the digit 6 in the number 2146.

The digit 6 is in the units column

Answer: 6

3 The median of an even number of values

Here are the shoe sizes of some students.

9 9 6 9 7 4

Work out the median.

Put the numbers in order: 4 6 7 9 9 9

The middle two numbers are 7 and 9

Halfway between them: (7 + 9) ÷ 2 = 8

Answer: 8

4 Finish time

A film starts at 7:15 am.

It lasts 2 hours 45 minutes.

At what time does the film finish?

Add the hours: 7:15 am + 2 hours = 9:15 am

Add the minutes: 9:15 am + 45 minutes = 10:00 am

Answer: 10:00 am

5 Rates

A machine makes 6 bottles each hour.

How many bottles does it make in 7 hours?

6 × 7 = 42

Answer: 42 bottles

6 Pattern sequences

Matchsticks are used to make a pattern of triangles.

The diagram shows the first three patterns.

How many matchsticks are needed for

(a) Pattern 4

(b) Pattern 7

Pattern 1, 2, 3 have 3, 5, 7 matchsticks

Each pattern has 2 more matchsticks than the one before

Pattern 4: 3 + 2 × 3 = 9

Pattern 7: 3 + 2 × 6 = 15

Answer: (a) 9 (b) 15

7 Probability from a bag

A bag contains 5 blue and 4 pink beads.

One is taken at random.

Write down the probability that it is pink.

There are 9 in total, and 4 are pink

Probability = $\frac{4}{9}$

Answer: $\frac{4}{9}$

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8 Perimeter of a regular polygon

The perimeter of a regular decagon is 40 mm.
Work out the length of one side.

A regular decagon has 10 equal sides
40 ÷ 10 = 4
Answer: 4 mm

9 Money: saving

Jack wants to buy a game for £52.
Jack has saved £38.
How much more does Jack need?

£52 − £38 = £14
Answer: £14

10 Translating a point

The point A has coordinates (0, 3).
A is moved 3 right and 2 down.
Write down the coordinates of the new point.

x-coordinate: 0 + 3 = 3
y-coordinate: 3 − 2 = 1
Answer: (3, 1)