**Day 256** **C Tier 10-a-day: Model Solutions**

## 1 Number sequences

Here is a number sequence.
42, 39, 36, 33, ...
Write down the next two numbers.

The sequence goes down by 3 each time
33 − 3 = 30, 30 − 3 = 27
**Answer: 30, 27**

## 2 Sequences

Here are the first four terms of a sequence.
28, 31, 34, 37
Write down the next term.

The terms go up by 3 each time
37 + 3 = 40
**Answer: 40**

## 3 Money: totals

Lola buys an apple and a banana.
An apple costs 65p.
A banana costs £1.40.
Work out the total cost.

65p + £1.40
65p + 140p = 205p = £2.05
**Answer: £2.05**

## 4 Bearings from compass points

Bearings are measured clockwise from north.
Write down the three-figure bearing of
(a) north-west
(b) north

North is 000°. Each compass point to the right (clockwise) is a further 45°.
(a) north-west is 315°
(b) north is 000°
**Answer: (a) 315° (b) 000°**

## 5 Probability with dice

A fair six-sided dice is rolled.
Write down the probability of rolling
(a) a number less than 6
(b) a 5

(a) 5 out of 6 numbers: $\frac{5}{6}$

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

**Answer: (a) $\frac{5}{6}$ (b) $\frac{1}{6}$**

## 6 Tables of values

Complete the table of values for y = x + 2.

When x = 4: y = 4 + 2 = 6
When x = 5: y = 5 + 2 = 7
**Answer: x = 4: y = 6; x = 5: y = 7**

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## 7 Volume of a cuboid

The diagram shows a cuboid.
Work out the volume of the cuboid.
The diagram is not drawn accurately.

Volume = length × width × height
8 × 3 × 6
8 × 3 = 24, then 24 × 6 = 144
**Answer: 144 $cm^3$**

## 8 Probability of not getting a colour

A bag contains 7 green counters, 3 yellow counters and 7 white counters.
One is taken at random.
Write down the probability that it is not green.

Number that are not green: 3 + 7 = 10
Total: 17
Probability = $\frac{10}{17}$
**Answer: $\frac{10}{17}$**

## 9 Lines of symmetry

Write down the number of lines of symmetry of
(a) a square
(b) a rectangle

(a) A square has 4 lines of symmetry
(b) A rectangle has 2 lines of symmetry
**Answer: (a) 4 (b) 2**

## 10 Forming and solving equations

There are x children in a club.
8 children leave.
There are now 15 children in the club.
(a) Write down an equation using x.
(b) Solve your equation to find how many children were in the club at first.

(a) $x - 8 = 15$
(b) $x = 15 + 8 = 23$
**Answer: (a) $x - 8 = 15$ (b) $x = 23$**