Day 355 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of b − 6 when b = −6.

−6 − 6 = −12

Answer: −12

2 The mode

Here are the ages of some children.
10 9 12 12 5 7 11
Write down the mode.

The mode is the value that appears most often
12 appears 2 times

Answer: 12

3 Angles in a right angle

A right angle is split into two angles by a line.
Work out the size of angle b.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 60 = 30

Answer: b = 30°

4 Line graphs

The line graph shows the depth of water in a tank at different times.
Write down the depth of water at 10 am.

Go up from 10 am to the line, then across to the scale: 15 cm

Answer: 15 cm

5 Number puzzles

I think of a number.
I subtract 4.
My answer is 4.
What number did I think of?

Work backwards: add 4
4 + 4 = 8

Answer: 8

6 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
3 × 2 × 6
3 × 2 = 6, then 6 × 6 = 36

Answer: 36 cm^3

7 Expressions for perimeter

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

Perimeter = c + c + c
= 3c

Answer: 3c cm

Day 355 **C Tier 10-a-day: Model Solutions**

8 Order of operations

Work out 2 × 4 + 8.

Multiply first
2 × 4 = 8
8 + 8 = 16
Answer: 16

9 Expected number

The probability that a bus is late is 0.2.
There are 200 buses in a week.
How many buses would you expect to be late?

Expected number = probability × number of trials
0.2 × 200 = 40
Answer: 40

10 Forming and solving equations

Femi has x stickers.
A friend gives Femi 7 more stickers.
Femi now has 29 stickers.
(a) Write down an equation using x.
(b) Solve your equation to find how many stickers Femi had at the start.

(a) x + 7 = 29
(b) x = 29 − 7 = 22
Answer: (a) x + 7 = 29 (b) x = 22