**Day 254** **C Tier 10-a-day: Model Solutions**

## 1 Reading a clock

The clock shows the time now.
(a) Write down the time shown.
(b) What time will it be in 15 minutes?

(a) The minute hand points to 2, which is 2 × 5 = 10 minutes past, and the hour hand has passed the 6, so the time is 6:10
(b) 6:10 + 15 minutes = 6:25
**Answer: (a) 6:10 (b) 6:25**

## 2 Adding fractions

Work out $\frac{9}{11} - \frac{1}{11}$.

The denominators are the same, so subtract the numerators
9 − 1 = 8
**Answer:** $\mathbf{\frac{8}{11}}$

## 3 Function machines

Here is a function machine.
Work out the output when the input is 4.

4 + 8 = 12
12 + 14 = 26
**Answer: 26**

## 4 Map scales

On a map, 1 cm represents 10 km.
Two towns are 6 cm apart on the map.
Work out the real distance between the towns.

6 × 10 = 60
**Answer: 60 km**

## 5 Substitution

d = 6 and y = 2
Work out the value of
(a) d + 3y
(b) d + y

(a) 6 + 3 × 2 = 12
(b) 6 + 2 = 8
**Answer: (a) 12 (b) 8**

## 6 Names of polygons

A polygon has 6 sides.
Write down the name of this polygon.

A shape with 6 sides is called a hexagon
**Answer: hexagon**

## 7 Money: totals

Femi buys a bun and a milkshake.
A bun costs 40p.
A milkshake costs £1.10.
Work out the total cost.

40p + £1.10
40p + 110p = 150p = £1.50
**Answer: £1.50**

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## 8 Sampling

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

## 9 Forming and solving equations

There are x children in a club.
7 children leave.
There are now 20 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) $x - 7 = 20$
(b) $x = 20 + 7 = 27$
**Answer: (a) $x - 7 = 20$ (b) $x = 27$**

## 10 Reading a straight-line graph

The graph shows the cost of apples.
Use the graph to find how many kg of apples can be bought for £6.

Go across from £6 on the vertical axis to the line, then down
Amount = 2 kg
**Answer: 2 kg**