**Day 316** **C Tier 10-a-day: Model Solutions**

## 1 Sequences

Here are the first four terms of a sequence.
15, 22, 29, 36
Write down the next term.

The terms go up by 7 each time
36 + 7 = 43
**Answer: 43**

## 2 Division with remainders

26 stickers are shared equally between 3 children.
(a) How many does each child get?
(b) How many are left over?

26 ÷ 3 = 8 remainder 2
**Answer: (a) 8 (b) 2**

## 3 Solving equations

Solve 2n = 16

2n means 2 × n, so divide both sides by 2
n = 16 ÷ 2 = 8
**Answer: n = 8**

## 4 Distance from speed and time

A train travels at 30 mph for 6 hours.
How far does it travel?

Distance = speed × time
30 × 6 = 180
**Answer: 180 miles**

## 5 Isosceles triangles

The diagram shows an isosceles triangle.
Work out the size of angle q.
The diagram is not drawn accurately.

The triangle is isosceles, so the two base angles are both 35°
35 + 35 = 70
180 − 70 = 110
**Answer: q = 110°**

## 6 Negative numbers

Work out −12 + 8.

Use a number line
−12 + 8 = −4
**Answer: −4**

## 7 Time from distance and speed

A train travels 140 miles at 20 mph.
How long does the journey take?

Time = distance ÷ speed
140 ÷ 20 = 7
**Answer: 7 hours**

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## 8 Expressions for perimeter

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

Perimeter = b + b + b
= 3b
**Answer: 3b cm**

## 9 24-hour clock

Write 1:20 am using the 24-hour clock.

am times stay the same, with a zero in front if needed
01:20
**Answer: 01:20**

## 10 Reflecting a point

The point P has coordinates (6, −5).
P is reflected in the x-axis.
Write down the coordinates of the image of P.

The x-coordinate stays the same and the y-coordinate changes sign
**Answer: (6, 5)**