Day 145 **C Tier 10-a-day: Model Solutions**

1 Solving equations

Solve c + 15 = 21

Subtract 15 from both sides
c = 21 − 15 = 6
Answer: c = 6

2 The range

Here are the shoe sizes of some students.
6 9 3 3 9 3 5 4
Work out the range.

Range = largest value − smallest value
9 − 3 = 6
Answer: 6

3 Angles on a straight line

The diagram shows a straight line.
Work out the size of angle a.
The diagram is not drawn accurately.

Angles on a straight line add up to 180°
180 − 55 = 125
Answer: a = 125°

4 24-hour clock

Write 10:30 am using the 24-hour clock.

am times stay the same, with a zero in front if needed
22:30
Answer: 22:30

5 Coordinates

(a) Write down the coordinates of point F.
(b) Which point has coordinates (2, −1)?

(a) F is left 3 and up 2
(b) Go right 2 and down 1: this is point W
Answer: (a) (−3, 2) (b) W

6 Negative numbers: temperature

The temperature is −9°C.
It rises by 4°C.
What is the new temperature?

−9 + 4 = −5
Answer: −5°C

7 Distance from speed and time

A train travels at 80 mph for 2 hours.
How far does it travel?

Distance = speed × time
80 × 2 = 160
Answer: 160 miles

8 Equations of lines

A straight line passes through the points
(3, 1), (6, 1), (8, 1)
Write down the equation of the line.

Every point has y-coordinate 1, so the line is horizontal
Answer: y = 1

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9 Division

Work out 155 ÷ 5.

5 × 31 = 155
So 155 ÷ 5 = 31
Answer: 31

10 Angles in parallel lines

Two parallel lines are crossed by a straight line.
Work out the size of angle q.
Give a reason for your answer.

The angles are in matching positions, so they are corresponding angles
Corresponding angles are equal
q = 75°
Answer: q = 75° (corresponding angles)