Day 311 **C Tier 10-a-day: Model Solutions**

1 The range

Here are the ages of some children.
11 11 5 11 11 14 8
Work out the range.

Range = largest value − smallest value
14 − 5 = 9
Answer: 9

2 Rounding

Write 165 to the nearest ten.

Look at the units digit, which is 5
5 is 5 or more, so round up
Answer: 170

3 24-hour clock

Write 06:40 using the 12-hour clock.
Use am or pm in your answer.

Times before 12:00 are am
06:40 = 6:40 am
Answer: 6:40 am

4 Sequences

Here is a sequence with one number missing.
16, ?, 28, 34, 40
Work out the missing number.

The terms go up by 6 each time
16 + 6 = 22
Answer: 22

5 Angles in a triangle

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

Angles in a triangle add up to 180°
The square corner is 90°
30 + 90 = 120
180 − 120 = 60
Answer: q = 60°

6 Negative numbers: temperature

At midday the temperature in Helsinki is 4°C.
At midnight it is −5°C.
How many degrees lower is the temperature at midnight?

Count from −5 up to 0, then from 0 up to 4
5 + 4 = 9
Answer: 9°C

7 Stem and leaf diagrams

The stem and leaf diagram shows the lengths, in cm, of pieces of ribbon.
Work out the range.

Largest = 39, smallest = 12
39 − 12 = 27
Answer: 27

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8 Reflection on a grid

The point P is drawn on the grid.
P is reflected in the line x = 5.
Write down the coordinates of the image of P.

P is (3, 1)
P is 2 squares to the left of the line, so the image is 2 squares to the right
x-coordinate: 5 + 2 = 7
Answer: (7, 1)

9 Inequalities

n is a whole number.
Write down all the possible values of n when
$-1 \leq n \leq 5$

n is at least −1 and at most 5
The smallest whole number is −1 and the largest is 5
Answer: −1, 0, 1, 2, 3, 4, 5

10 Pie chart angles

30 students were asked about their way of travelling to school.
6 of them walk to school.
The results are shown in a pie chart.
Work out the angle of the sector for those students.

360° ÷ 30 = 12° for each student
6 × 12° = 72°
Answer: 72°