Day 150 **C Tier 10-a-day: Model Solutions**

1 Tally charts

The tally chart shows the types of film some people watched.
Write down the frequency for Comedy.

Each group of 5 is 5 and any extra lines are added on
Comedy: 1 group of 5 and 4 = 5 × 1 + 4 = 9
Answer: 9

2 Even and odd numbers

Write down the next odd number after 38.

Odd numbers end in 1, 3, 5, 7 or 9
Count up from 38
Answer: 39

3 Angles on a straight line

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

Angles on a straight line add up to 180°
180 − 110 = 70
Answer: x = 70°

4 Equations of lines

A straight line passes through the points
(3, 8), (6, 8), (9, 8)
Write down the equation of the line.

Every point has y-coordinate 8, so the line is horizontal
Answer: y = 8

5 Money: saving

Maya wants to buy a game for £50.
Maya has saved £20.
How much more does Maya need?

£50 − £20 = £30
Answer: £30

6 Special sequences

Here are the first four terms of a sequence.
4, 9, 16, 25
Write down the next two terms.

These are square numbers: 2^2, 3^2, 4^2, 5^2 and so on
The next is $6^2 = 36$
Then $7^2 = 49$
Answer: 36, 49

7 Simplifying fractions

Write $\frac{15}{20}$ in its simplest form.

Divide the top and bottom by 5
$\frac{15}{20} = \frac{3}{4}$
Answer: $\frac{3}{4}$

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8 Probabilities add up to 1

A spinner has four colours.
The table shows the probability of each colour.
The probabilities add up to 1.
Work out the missing probability.

Add the known probabilities: 0.45 + 0.15 + 0.2 = 0.8
1 − 0.8 = 0.2
Answer: 0.2

9 Coordinates

ABCD is a rectangle.
A is the point (1, 0), B is the point (1, 6) and C is the point (6, 6).
Write down the coordinates of D.

AB is vertical so D has the same y-coordinate as A: 0
BC is horizontal so D has the same x-coordinate as C: 6
Answer: (6, 0)

10 Angles between clock hands

Work out the smaller angle between the hour hand and the minute hand of a clock at 7 o'clock.

There are 12 hours round a clock, so each hour is 360 ÷ 12 = 30°
At 7 o'clock the hands are 7 hours apart (going the short way: 5)
5 × 30 = 150
Answer: 150°