1.
A bowl contains 14 ready salted crisps, 6 cheese and onion crisps and 4 salt and vinegar crisps.

Adrian is going to pick a crisp at random from the bowl.

(a) Circle the word that describes the probability of picking a ready salted crisp.
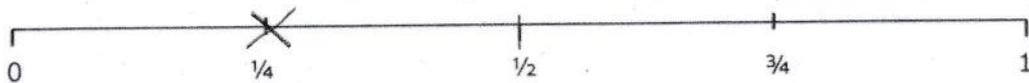
Impossible   Unlikely   Evens   ⟨Likely⟩   Certain

(1)

(b) Mark on the probability scale the probability of picking a cheese and onion crisp.

0   ¼   ½   ¾   1

(1)

(c) Work out the probability of picking a crisp that is not salt and vinegar, giving your answer in its simplest terms.

$$\frac{20}{24} = \boxed{\frac{5}{6}}$$

(1)

2.
The table below shows the temperatures, in degrees Celsius, in four cities on Saturday and Sunday.

	Copenhagen	Barcelona	Rome	Moscow
Saturday	-1°C	15°C	10°C	-3°C
Sunday	2°C	22°C	16°C	0°C

(a) Work out the mean temperature of the four cities on Sunday.

$$2 + 22 + 16 = 40 \div 4 = \underline{10°C}$$

(2)

(b) What was the difference in temperature between Rome and Moscow on Saturday?

$$10 - -3 = \underline{13°C}$$

(1)

The formula below converts degrees Celsius (C) into degrees Fahrenheit (F).

F = 2C + 30

(c) What was the temperature in Barcelona on Sunday, in degrees Fahrenheit?

$$2 \times 22 + 30 = \underline{74°F}$$

(2)

3.

Billy went to a car park and counted the colours of each of the cars.
The results are shown in the below frequency table.

Colour	Frequency
White	15
Black	8
Red	7
Blue	7
Yellow	1
Green	2

(a) How many cars were in the car park in total?

$15 + 8 + 7 + 7 + 1 + 2 = \underline{40}$

(1)

(b) If Billy chose a car at random, what would be the probability that it is black?
Give your answer in its simplest form.

$\frac{8}{40} = \boxed{\frac{1}{5}}$

(2)

Billy also noted how many of the cars in the car park were hatchbacks.
25% of the cars were hatchbacks.

(c) How many cars in the car park were not hatchbacks?

25% of 40 = 10

40 − 10 = $\underline{30}$

(2)

4.

(a) Reflect Shape A in the line x = 5 and label this Shape B.

(2)

(b) Translate Shape A using the vector $\begin{pmatrix} -7 \\ 1 \end{pmatrix}$ and label this Shape C.

(2)

(c) Enlarge Shape D with scale factor 2 using (-9,9) as the centre of enlargement and label this Shape E.

(3)