Question 1

The probability that a salesperson will get an order from a visit to a customer is $\frac{1}{4}$

She has 2 visits tomorrow.

What is the probability that she will get orders from **both** visits tomorrow?

Give your answer as a fraction in its simplest form.

Question 2

A call centre aims to deal with calls in less than 5 minutes.

Calls come in randomly.

The table shows data for the calls made to the centre.

Type of call	Proportion of all calls	Completed in less than 5 minutes
Customer complaints	1/4	1/2
New business	3/4	1/8

Work out the probability that the next call will be a customer complaint completed within under 5 minutes.
Give your answer as a fraction in its simplest form.

Question 3

A group of students were asked how many brothers and sisters they had.

Their answers are recorded in the table below.

Number of brothers and sisters	0	1	2	3	4	5
Number of students	4	12	8	3	1	2

If a student is chosen at random, find the probability that the student will only have one sibling.

Give your answer as a fraction in its simplest form.

Question 4

Clair knows that there is a probability of 0.4 that she takes 45 mins or more to commute to work.

What is the probability her commute to work today will take less than 45 mins?

Question 5

Jermaine's weather app says there is a 0.6 probability of rain this evening.

What is the probability that it does not rain this evening?

Question 6

The proportion of the garden that is covered by grass is 0.35.

The rest of the garden is taken up by a patio.

Find the size of the patio as a fraction of the size of the garden.

Give your answer in its simplest form.

Question 7

A company is monitoring engagement with their social media posts.

A post on Tuesday gets 1440 likes in 12 hours.

A post on Wednesday gets 800 likes in 8 hours.

The ratio of the number of likes per hour of Tuesday's post to the number of likes per hour of Wednesday's post is expressed as $A : B$.

This ratio is in simplest form.

Find A and B.

Question 8

The time taken to check-in for a flight is inversely proportional to the number of airport staff working.

It takes 20 minutes for passengers to be checked-in when 8 staff are working.

How long will it take if 10 staff are working?

Question 9

The printer in the maths building charges $10p$ to print one black and white page, and $15p$ to print one colour page.

Mrs Henderson pays £5.50 to print some documents.

The ratio of black and white pages to colour pages that she prints is $4 : 1$.

How many pages does she print off?

Question 10

At the charity event there is a Wheel of Fortune game for the boys and girls.

To win you need to spin the dial and land on a 'win' segment.

Wheel of Fortune

15 girls and 15 boys are each having a turn on the game today.

What is the probability today that a child who plays is a girl, **and** that she wins a prize?

Question 11

Mary decides that she doesn't have enough time to paint the wall herself, so she hires a painter and decorator to do it instead.

The painter and decorator informs Mary that the ratio between the time taken to tape the edges of the wall, clean the wall and paint the wall is $1 : 3 : 14$.

It takes the painter and decorator 3.5 hours to paint the wall.

If the painter and decorator charges $£14.20$ per hour plus a $£15$ fixed fee, how much will Mary have to pay the painter and decorator?

Question 12

Simon is building a patio, he will use a dry mixture of sand and cement.
He will need 20kg of mixture for each square metre of patio.
To make the mixture he needs to mix sand and cement in the ratio of 5:1
Calculate how many 25kg bags of cement he will need.
Assume the area of the patio is 30m^2