

GCSE
MATHEMATICS (8300)
FOUNDATION
Probability and Statistics





Total number of marks: 30 per optional item

Q10

A group of students were asked to name their favourite burger.

The pictogram shows the results.

The key is missing.

Chicken	
Beef	
Turkey	
Veggie	

40 students said Veggie.

How many students said Chicken?

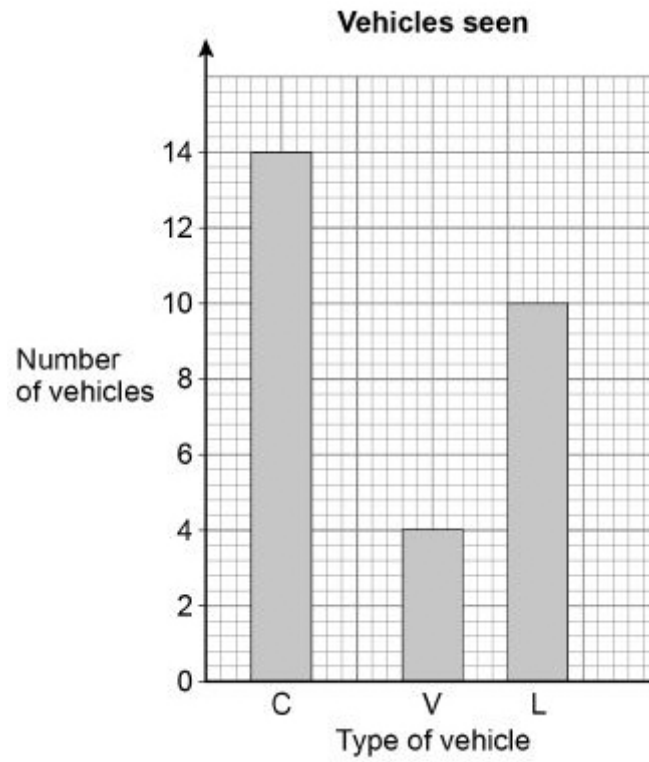
(Total 3 marks)

Q11

On a journey, Laura sees 30 vehicles.

Each vehicle is a car, a van or a lorry.

She draws this bar chart.



Make **two** criticisms of her bar chart.

(Total 2 marks)

Q11a

In a raffle, 200 tickets are sold.

The tickets are either red or blue.

The winning ticket is picked at random.

- (a) What is the probability that the winning ticket is green?

(Total 1 mark)

Q11b

- (b) 79 children and 90 women buy one ticket each.

Men buy the rest of the tickets.

Work out the probability that a man buys the winning ticket.

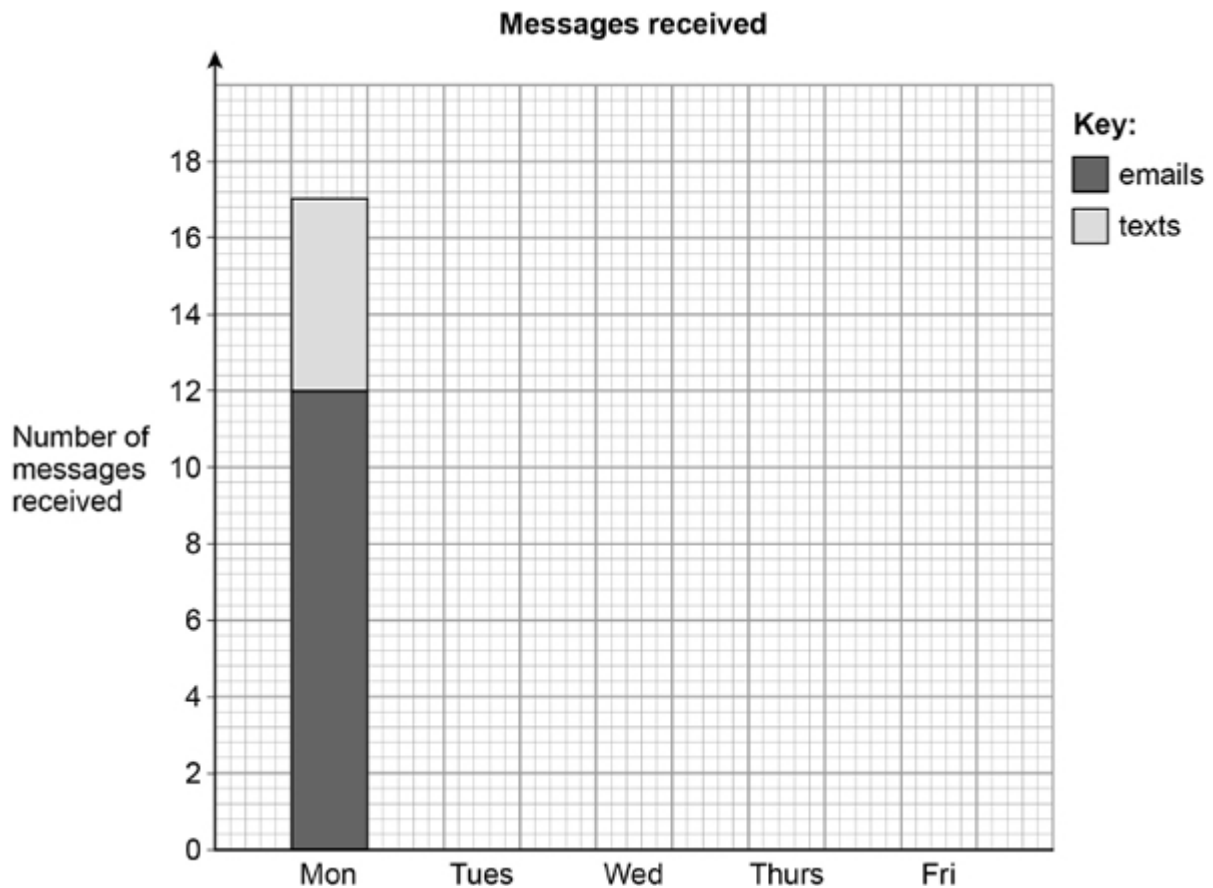
(Total 2 marks)

Q9a

The table shows the number of messages Sam received each day for five days.

	Messages	
	Number of emails	Number of texts
Monday	12	5
Tuesday	8	6
Wednesday	10	3
Thursday	6	6
Friday	12	4

- (a) Sam draws a composite bar chart to represent the data.
He has drawn the bar for Monday.



Complete the chart.

(Total 2 marks)

Q9b

The table shows the number of messages Sam received each day for five days.

	Messages	
	Number of emails	Number of texts
Monday	12	5
Tuesday	8	6
Wednesday	10	3
Thursday	6	6
Friday	12	4

(b) In total, what fraction of the messages were emails?

Give your answer in its simplest form.

(Total 3 marks)

Q7

Here is a list of numbers.

21 17 23 21 29 32 21 25 36

Work out the median.

(Total 2 marks)

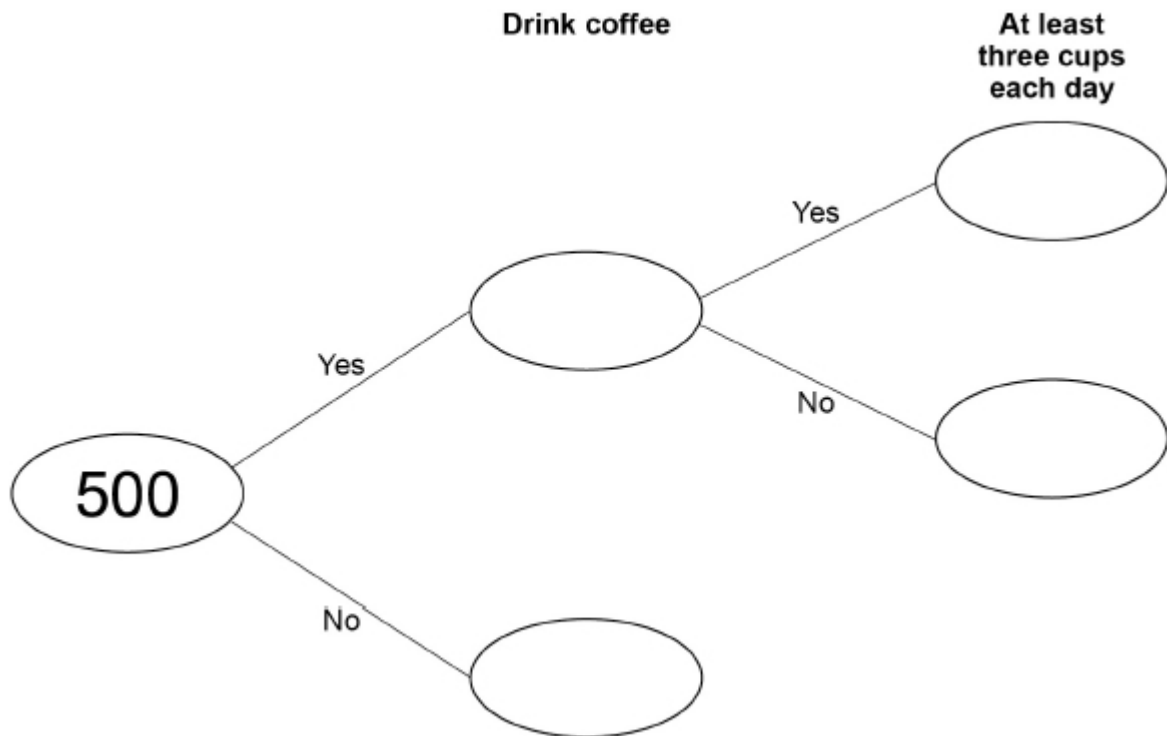
Q6a

500 people are asked if they drink coffee.

$\frac{9}{10}$ say Yes.

20% of the people who say Yes drink at least three cups each day.

- (a) Complete the frequency tree.



(Total 4 marks)

Q6b

500 people are asked if they drink coffee.

$\frac{9}{10}$ say Yes.

20% of the people who say Yes drink at least three cups each day.

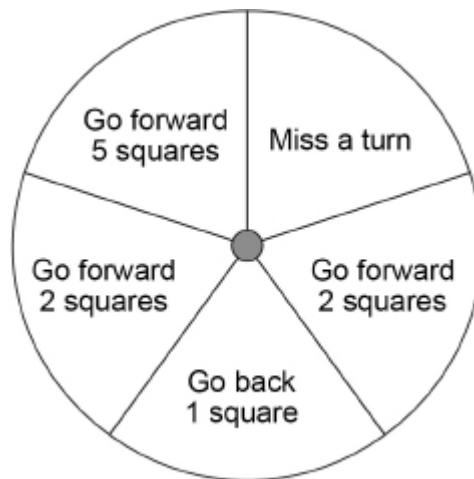
- (b) What fraction of the 500 people drink at least three cups of coffee each day?

Give your answer in its simplest form.

(Total 2 marks)

Q10a

In a game, a fair spinner has five equal sections as shown.



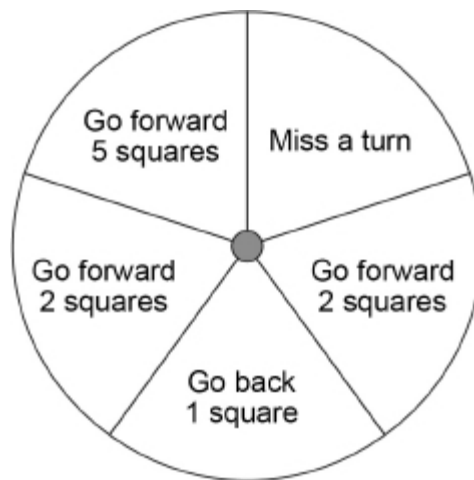
- (a) Chloe spins the spinner.

Write down the probability that she gets 'Miss a turn'.

(Total 1 mark)

Q10b

In a game, a fair spinner has five equal sections as shown.



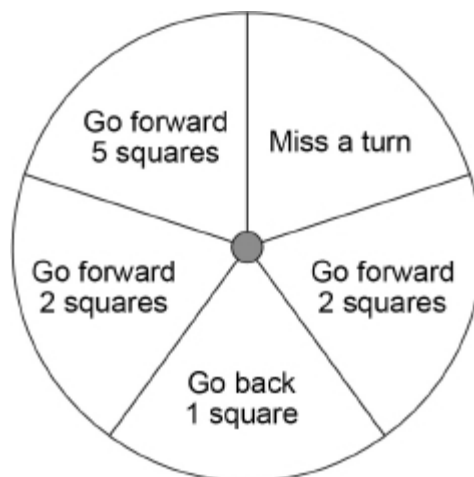
- (b) The spinner lands on 'Go back 1 square' three times in a row. Jamal is next to spin.

Write down the probability that he gets 'Go back 1 square'.

(Total 1 mark)

Q10c

In a game, a fair spinner has five equal sections as shown.



- (c) In one game there are 85 spins.

How many of these spins are expected to be 'Go forward 2 squares'?

(Total 2 marks)

Q18

Here are five cards.



One of the cards is removed.

The mean of the numbers on the remaining four cards is 6

Which card was removed?

You **must** show your working.

(Total 3 marks)

Q2

In a pie chart, one sector represents $\frac{1}{4}$ of the data.

What is the angle of that sector?

Circle your answer.

4°

25°

45°

90°

(Total 1 mark)

Q23

Which **one** of the following is discrete data?

Circle your answer.

Mass of a television

Time taken to deliver a television

Height of a television mast

Number of televisions sold

(Total 1 mark)