

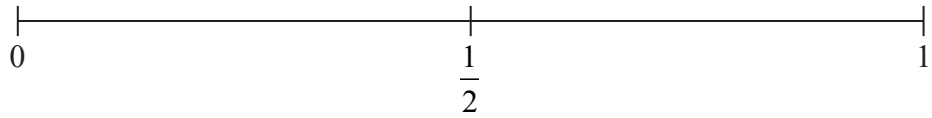
Probability

June 2023 Paper 2

6 Shari has a fair ordinary dice.

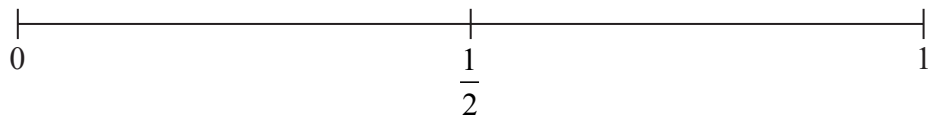
She rolls the dice once.

(a) On the probability scale, mark with a cross (×) the probability that Shari gets the number 7



(1)

(b) On the probability scale, mark with a cross (×) the probability that Shari gets an even number.

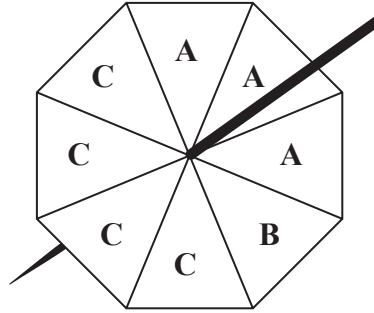


(1)

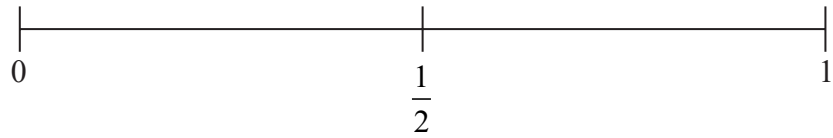
(Total for Question 6 is 2 marks)

June 2020 Paper 1

6 Gita spins a fair 8-sided spinner.

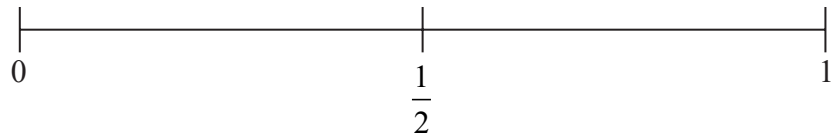


(a) On the probability scale, mark with a cross (×) the probability that the spinner will land on **C**.



(1)

(b) On the probability scale, mark with a cross (×) the probability that the spinner will land on **D**.



(1)

(Total for Question 6 is 2 marks)

November 2024 Paper 2

7 Here are the ages, in years, of 8 children.

14 10 10 13 15 9 15 10

(a) Work out the mean age.

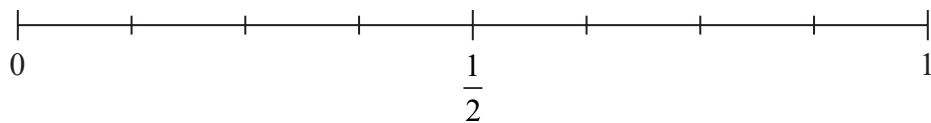
..... years
(2)

(b) Work out the range of the ages.

..... years
(2)

One of the children is chosen at random.

(c) On the probability scale below, mark with a cross (×) the probability that this child has an age of 15

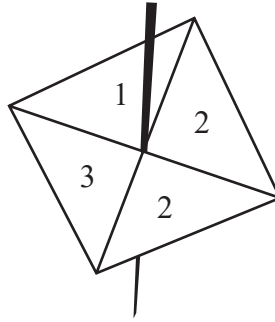


(1)

(Total for Question 7 is 5 marks)

June 2023 Paper 3

7 Here is a 4-sided spinner.



Samina spins the spinner once.

(a) Choose the word that best describes the probability that the spinner lands on 2

impossible	unlikely	evens	likely	certain
------------	----------	-------	--------	---------

.....
(1)

(b) Choose the word that best describes the probability that the spinner lands on a number less than 4

impossible	unlikely	evens	likely	certain
------------	----------	-------	--------	---------

.....
(1)

Ralph rolls a biased dice once.
The probability that he gets the number 5 is 0.4

(c) Work out the probability that Ralph does **not** get the number 5

.....
(1)

(Total for Question 7 is 3 marks)

November 2022 Paper 1

7 Here is a list of 8 letters.

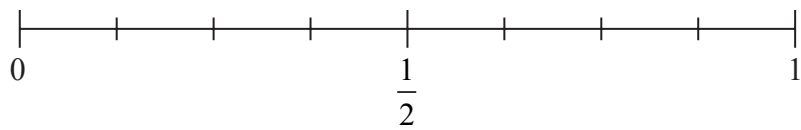
B C A A A A B A

(a) Write down the mode.

.....
(1)

One of the 8 letters is going to be picked at random.

(b) (i) On the probability scale, mark with a cross (×) the probability that this letter will be B.



(1)

(ii) Find the probability that this letter will be C.

.....
(1)

(Total for Question 7 is 3 marks)

November 2023 Paper 1

9 Selina has a bag of 22 counters.

5 of the counters are blue.

9 of the counters are red.

8 of the counters are pink.

Selina takes at random a counter from the bag.

Write down the probability that Selina

(i) takes a red counter,

.....
(1)

(ii) does **not** take a pink counter,

.....
(1)

(iii) takes a white counter.

.....
(1)

(Total for Question 9 is 3 marks)

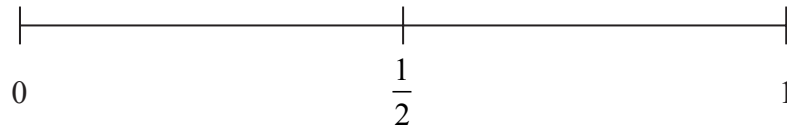
June 2022 Paper 3

10 Here is a list of 8 numbers.

2 2 3 5 6 6 8 9

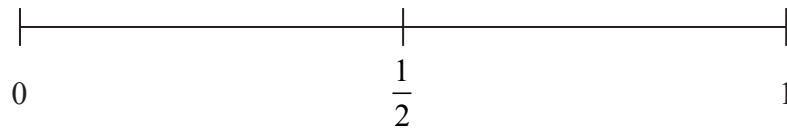
Kim picks at random one of these numbers.

- (a) On the probability scale below, mark with a cross (×) the probability that Kim picks a number 7



(1)

- (b) On the probability scale below, mark with a cross (×) the probability that Kim picks a number greater than 5



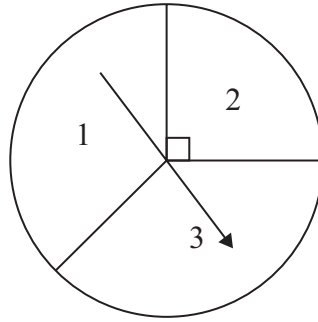
(1)

- (c) Find the probability that Kim picks an even number.

.....
(2)

(Total for Question 10 is 4 marks)

11 Majid has a spinner.



Majid is going to spin the arrow.
The arrow can land on 1 or on 2 or on 3

Majid says,

“The probability that the arrow will land on 2 is $\frac{1}{3}$ because the spinner has three sections.”

Is Majid correct?
You must give a reason for your answer.

.....

.....

.....

(Total for Question 11 is 1 mark)

November 2023 Paper 2

11 Rima is going to roll a fair 6-sided dice.

- (a) Choose the word that best describes the probability that the dice will land on the number 3

impossible	unlikely	evens	likely	certain
------------	----------	-------	--------	---------

.....
(1)

- (b) Choose the word that best describes the probability that the dice will land on an odd number.

impossible	unlikely	evens	likely	certain
------------	----------	-------	--------	---------

.....
(1)

(Total for Question 11 is 2 marks)

June 2024 Paper 1

13 There are only £10 notes and £20 notes in a wallet.

Ali takes at random a note from the wallet.

(a) Write down the probability that Ali takes a note with a value of more than £5

(1)

There are only 1p coins and 2p coins in a bag.

The total value of the coins in the bag is 40p

The total value of the 1p coins is the same as the total value of the 2p coins.

Simon takes at random a coin from the bag.

(b) Find the probability that Simon takes a 1p coin.

(2)

(Total for Question 13 is 3 marks)

June 2022 Paper 1

- 13 There are 15 sweets in a jar.
4 of the sweets are red.

Jill takes at random a sweet from the jar.

- (a) Write down the probability that the sweet is red.

.....
(1)

There are only green counters and blue counters in a bag.

A counter is taken at random from the bag.
The probability that the counter is green is 0.3

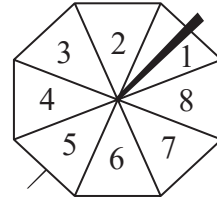
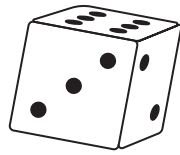
- (b) Find the probability that the counter is blue.

.....
(1)

(Total for Question 13 is 2 marks)

June 2023 Paper 2

15 Here is a fair ordinary dice and a fair 8-sided spinner.



Charlie throws the dice once and spins the spinner once.

Is Charlie more likely to get

a number less than 3 on the dice
or a number greater than 5 on the spinner?

You must show all your working.

(Total for Question 15 is 3 marks)

November 2024 Paper 2

16 Aisha has two boxes of sweets, box **A** and box **B**.

In box **A**, there are only 10 red sweets and 30 green sweets.

In box **B**, there are only 7 red sweets and 18 green sweets.

Aisha is going to take at random a sweet from box **A** and a sweet from box **B**.

Which box gives Aisha the greater probability of taking a red sweet, box **A** or box **B**?

You must show how you get your answer.

(Total for Question 16 is 3 marks)

June 2020 Paper 3

16 There are only 5 blue cards, 2 green cards and 4 red cards in a pack.

Isabella is going to take at random one card from the pack.

(a) Write down the probability that Isabella will take a blue card.

.....
(2)

Ken is going to throw a biased dice once.

The probability that the dice will land on six is 0.3

(b) What is the probability that the dice will **not** land on six?

.....
(1)

(Total for Question 16 is 3 marks)

November 2022 Paper 1

17 There are only blue counters, green counters, red counters and yellow counters in a bag.

The table shows the number of blue counters in the bag.

Colour	blue	green	red	yellow
Number of counters	30			

There is a total of 100 counters in the bag.

Ashin takes at random a counter from the bag.

(a) Find the probability that the counter is **not** blue.

.....
(2)

November 2024 Paper 1

19 The table shows the probabilities that a biased dice will land on 3, on 4, on 5 and on 6

Number on dice	1	2	3	4	5	6
Probability			0.10	0.30	0.05	0.25

Karim assumes that the probabilities that the dice will land on 1 and on 2 are the same.

Karim rolls the biased dice 500 times.

- (a) Assuming Karim is right, work out an estimate for the number of times the dice will land on 2

.....
(3)

Karim is wrong.

The probability that the dice will land on 2 is greater than the probability that the dice will land on 1

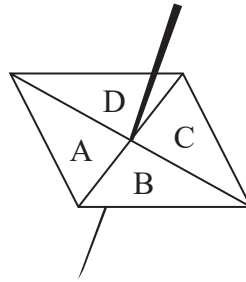
- (b) How does this information affect your answer to part (a)?

.....
.....
.....
(1)

(Total for Question 19 is 4 marks)

November 2023 Paper 3

21 Here is a biased spinner.



The table shows the probabilities that when the spinner is spun it will land on A, on B, on C and on D.

Letter	A	B	C	D
Probability	0.4	0.21	0.32	0.07

Luka will spin the spinner 200 times.

Work out an estimate for the number of times the spinner will land on A.

.....
(Total for Question 21 is 2 marks)

June 2020 Paper 3

21 Malik is going to throw a fair coin 50 times.

(a) Write down an estimate for the number of times the coin will land on heads.

.....
(1)

Paula and Simon are trying to find out if a different coin is biased.

Paula throws this coin 10 times.

She records the number of times the coin lands on heads.

Simon throws the same coin 100 times.

He records the number of times the coin lands on heads.

(b) Whose results will be more useful in deciding if the coin is biased?

Give a reason for your answer.

.....
.....
.....
(1)

(Total for Question 21 is 2 marks)

June 2024 Paper 2

- 23 There are only red discs, blue discs and yellow discs in a bag.
There are 24 yellow discs in the bag.

Mel is going to take at random a disc from the bag.

The probability that the disc will be yellow is 0.16

$$\text{the number of red discs} : \text{the number of blue discs} = 5 : 4$$

Work out the number of red discs in the bag.

.....
(Total for Question 23 is 4 marks)

November 2021 Paper 3

- 26 In a bag there are only red counters, blue counters, green counters and pink counters. A counter is going to be taken at random from the bag.

The table shows the probabilities of taking a red counter or a blue counter.

Colour	red	blue	green	pink
Probability	0.05	0.15

The probability of taking a green counter is 0.2 more than the probability of taking a pink counter.

- (a) Complete the table.

(2)

There are 18 blue counters in the bag.

- (b) Work out the total number of counters in the bag.

.....
(2)

(Total for Question 26 is 4 marks)