

Basic Probability and the Probability Scale

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **29**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 A bag contains 5 green balls, 4 white balls and 1 red ball.

Theo is going to take at random a ball from the bag.

(a) Choose the word that best describes the probability that Theo takes a green ball.

impossible unlikely evens likely certain

.....
(1)

(b) Choose the word that best describes the probability that Theo takes a red ball.

impossible unlikely evens likely certain

.....
(1)

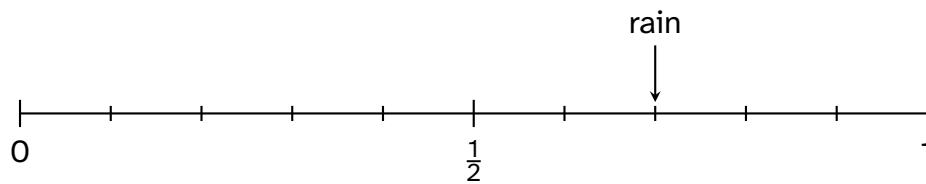
(c) Choose the word that best describes the probability that Theo takes a blue ball.

impossible unlikely evens likely certain

.....
(1)

(Total for Question 1 is 3 marks)

- 2** The arrow on this probability scale shows the probability that it will rain tomorrow in a town.
The scale is marked in steps of 0.1



- (a) Choose the word that best describes the probability that it will rain tomorrow.
impossible unlikely evens likely certain

.....
(1)

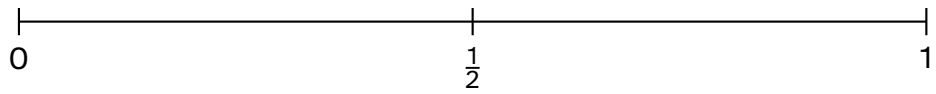
- (b) On the probability scale, mark with a cross (x) the probability that it will **not** rain tomorrow.

(1)

(Total for Question 2 is 2 marks)

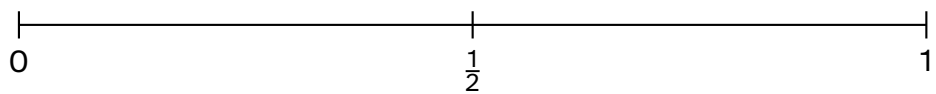
3 Tom throws a fair coin and rolls an ordinary fair dice.

- (a) On the probability scale below, mark with a cross (x) the probability that the coin lands on tails.



(1)

- (b) On the probability scale below, mark with a cross (x) the probability that the dice lands on a multiple of 3



(1)

(Total for Question 3 is 2 marks)

- 4 The table shows the fruit in a bowl.

Fruit	apple	banana	orange	pear
Number	6	4	5	5

Mo takes at random a piece of fruit from the bowl.

- (a) Write down the probability that Mo takes an orange.

.....
(1)

- (b) Write down the probability that Mo does **not** take an apple.

.....
(1)

- (c) Write down the probability that Mo takes a plum.

.....
(1)

(Total for Question 4 is 3 marks)

- 5 Each letter of the word PROBABILITY is written on a card.
One of the cards is taken at random.

- (a) Write down the probability that the letter is B.

.....
(1)

- (b) Write down the probability that the letter is **not** I.

.....
(1)

(Total for Question 5 is 2 marks)

6 A fair 5-sided spinner has sections labelled 2, 3, 3, 5 and 8

(a) Write down the probability that the spinner lands on an odd number.

.....
(1)

(b) Jake says,

“The spinner is more likely to land on an even number than on an odd number.”

Is Jake correct?

You must give a reason for your answer.

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

(Total for Question 6 is 2 marks)

7 There are 40 tiles in a bag.

25% of the tiles are red.

$\frac{1}{8}$ of the tiles are blue.

9 of the tiles are white.

The rest of the tiles are black.

Zainab takes at random a tile from the bag.

Work out the probability that the tile is black.

.....
(3)

(Total for Question 7 is 3 marks)

8 Nia can play one of two games at a school fair.

Spinner game: a fair spinner has 12 equal sections. 3 of the sections say WIN.

Card game: there are 40 cards face down. 9 of the cards say WIN. Nia takes one card at random.

Which game gives Nia the greater probability of winning?

You must show how you get your answer.

.....
(3)

(Total for Question 8 is 3 marks)

9 A box contains 30 chocolates.

12 of the chocolates are milk chocolates.

The rest are dark or white chocolates.

There are twice as many dark chocolates as white chocolates.

A chocolate is taken at random.

Work out the probability that it is a white chocolate.

.....
(3)

(Total for Question 9 is 3 marks)

- 10** A bag contains 8 blue counters and some red counters.
A counter is taken at random.
The probability that the counter is blue is $\frac{2}{5}$
Work out the number of red counters in the bag.

.....
(2)

(Total for Question 10 is 2 marks)

- 11** There are 18 green counters and 12 yellow counters in a bag.
Leo puts some more green counters and some more yellow counters in the bag.
He puts in twice as many yellow counters as green counters.
Leo is then going to take at random a counter from the bag.
The probability that the counter will be green is now $\frac{1}{2}$

How many yellow counters did Leo put in the bag?
You must show all your working.

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(4)

(Total for Question 11 is 4 marks)
