

Name: _____

GCSE (1 – 9)

Writing Probability and The Probability Scale

Instructions

- Use **black** ink or ball-point pen.
- Answer all Questions.
- Answer the Questions in the spaces provided
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

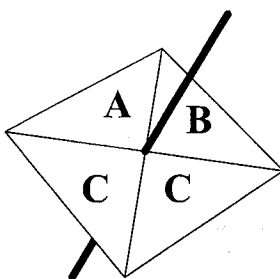
Information

- The marks for each Question are shown in brackets
– *use this as a guide as to how much time to spend on each Question.*

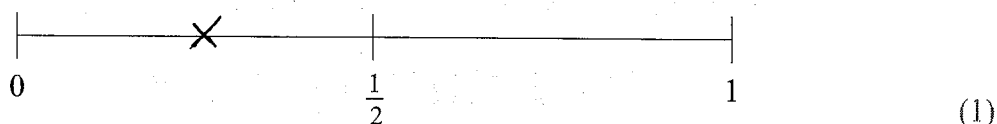
Advice

- Read each Question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every Question.
- Check your answers if you have time at the end

1 Stevie spins a fair 4-sided spinner.



(a) On the probability scale mark with a cross (X) the probability that the spinner lands on A.

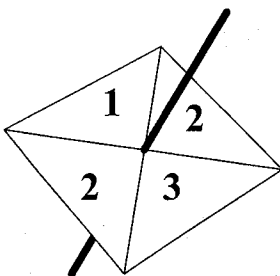


(b) Write down the probability that the spinner lands on C.

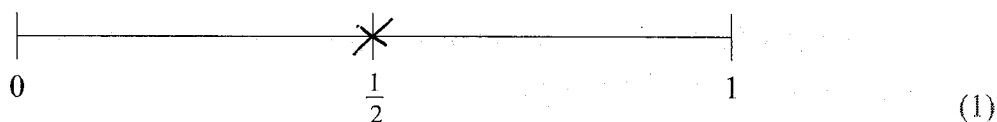
$\frac{2}{4}$ or $\frac{1}{2}$ $\frac{1}{2}$ (1)

(Total for Question 1 is 2 marks)

2 Sophie spins a fair 4-sided spinner.



(a) On the probability scale mark with a cross (X) the probability that the spinner lands on 2.

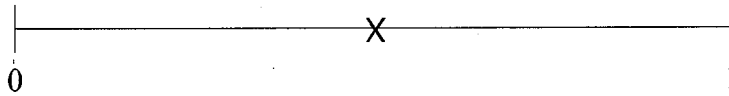


(b) Write down the probability that the spinner lands on 4.

 0 (1)

(Total for Question 2 is 2 marks)

3 The probability of an event is marked with a cross (X) on the probability scale.



Write down an estimate for the probability of the event.

$$\frac{1}{2}$$

(Total for Question 3 is 1 mark)

4 Here is a list of 8 numbers.

1 2 3 4 5 6 8 9

One of the numbers is chosen at random.

Write down the probability that this number is 9.

$$\frac{1}{8}$$

(Total for Question 4 is 1 mark)

5 There are 11 pens in a box.

5 pens are red.

4 pens are blue.

2 pens is green.

On pen is selected at random from the box.

(a) Write down the probability that pen is green.

$$\frac{2}{11}$$

(1)

(b) Write down the probability that pen is black.

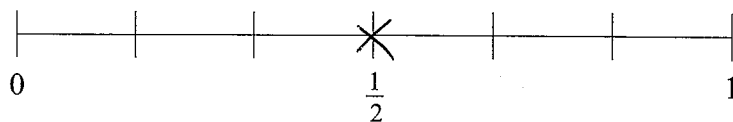
$$0$$

(1)

(Total for Question 5 is 2 marks)

6 An ordinary fair dice is thrown once.

(a) On the probability scale mark with a cross (X) the probability that the dice lands on an even number.



(1)

(b) Write down the probability that the dice lands on a number less than 3.

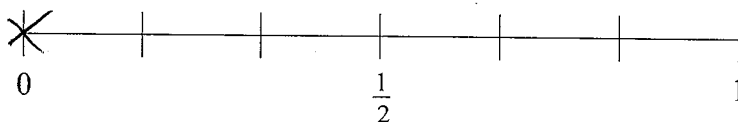
$$\frac{2}{6} \text{ or } \frac{1}{3} \quad \underline{\frac{1}{3}}$$

(1)

(Total for Question 6 is 2 marks)

7 An ordinary fair dice is thrown once.

(a) On the probability scale mark with a cross (X) the probability that the dice lands on 10.



(1)

(b) Write down the probability that the dice lands on a number greater than 3.

$$\frac{3}{6} \text{ or } \frac{1}{2} \quad \underline{\frac{1}{2}}$$

(1)

(Total for Question 7 is 2 marks)

8 An ordinary fair dice is thrown once.

(a) On the probability scale mark with a cross (X) the probability that the dice lands on a number less than 7.



(1)

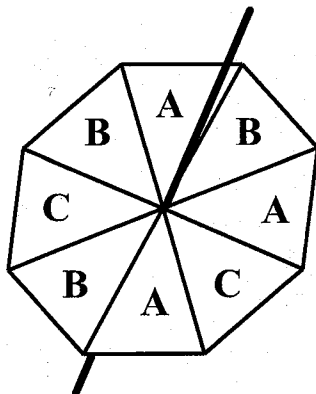
(b) Write down the probability that the dice lands on 5.

$$\underline{\frac{1}{6}}$$

(1)

(Total for Question 8 is 2 marks)

- 9 Sam spins a fair 8-sided spinner.



Write down the probability that the spinner lands on A.

$$\frac{3}{8}$$

(Total for Question 9 is 1 mark)

- 10 Raphael buys one raffle ticket.

A total of 250 raffle tickets are sold.
One of these tickets will win the raffle.
Each ticket has an equal chance of winning the raffle.

- (a) Write down the probability that Raphael's ticket will win the raffle.

$$\frac{1}{250}$$

- (b) Write down the probability that Raphael's ticket will not win the raffle.

$$\frac{249}{250}$$

(Total for Question 10 is 2 marks)

- 11 The probability of Barry winning a Badminton match is $\frac{3}{8}$

Work out the probability that Barry does not win a Badminton match.

$$\frac{5}{8}$$

(Total for Question 11 is 1 marks)

- 12 The probability of Timmy winning a Tennis match is 0.7.

Work out the probability that Timmy does not win a Tennis match.

$$0.3$$

(Total for Question 12 is 1 marks)

13 There are 26 sweets in a bag.

15 of the sweets are red.
The rest of the sweets are white.

One of the sweets is taken at random.

Find the sweets that the ~~counter~~ is red.
Sweet

$$\frac{15}{26}$$

(Total for Question 13 is 2 marks)

14 There are 30 pens in a box.

12 of the pens are black.
7 of the pens are green.
The rest of the pens are red.

$$12 + 7 = 19$$

$$30 - 19 = 11$$

One of the pens is chosen at random.

Find the probability that the pen is red.

$$\frac{11}{30}$$

(Total for Question 14 is 2 marks)

15 There are 53 counters in a bag.

15 of the counters are red.
The rest of the counters are blue.

$$53 - 15 = 38$$

One of the counters is taken at random.

Find the probability that the counter is blue.

$$\frac{38}{53}$$

(Total for Question 15 is 2 marks)

16 A draw is being held to win a prize.

Bruce buys 17 tickets.
A total of 350 tickets are in the draw.

$$350 - 17 = 333$$

Find the probability that Bruce does **not** win the prize.

$$\frac{333}{350}$$

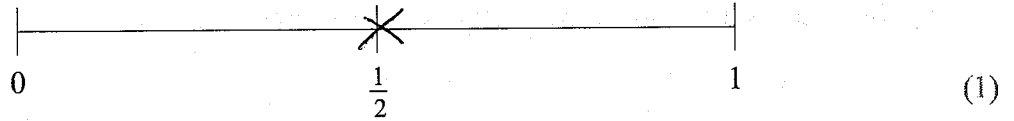
(Total for Question 16 is 2 marks)

17 There are 8 marbles in a bag.

4 marbles are red.
3 marbles are blue.
1 marble is green.

One marble is selected at random from the bag.

(a) On the probability scale mark with a cross (X) the probability that the marble is red.



(b) On the probability scale mark with a cross (X) the probability that the marble is yellow.



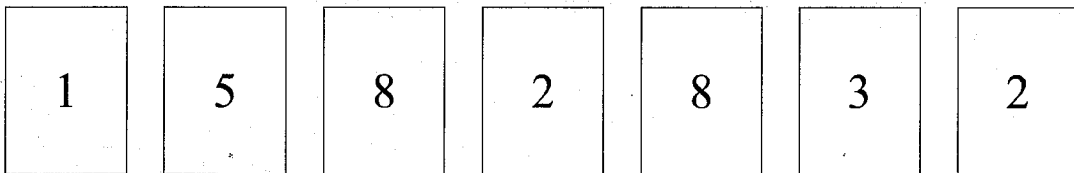
(c) Write down the probability that marble is blue.

$$\frac{3}{8}$$

(1)

(Total for Question 17 is 3 marks)

18 Here are some number cards.



One of the cards is selected at random.

(a) Write down the probability that card has the number 8 on it.

$$\frac{2}{7}$$

(1)

(b) Find the probability the card has an odd number on it.

$$\frac{3}{7}$$

(1)

(Total for Question 18 is 2 marks)

19 There are some counters in a bag.

The table shows the number of counters of each colour.

Colour	Red	Blue	Yellow	Green
Number of Counters	7	2	5	3

A counter is taken at random from the bag.

(a) Write down the probability that the counter is green.

$$7 + 2 + 5 + 3 = 17$$

$$\frac{3}{17}$$

(b) Write down the probability that the counter is not blue.

$$\frac{15}{17} \quad (1)$$

$$\frac{15}{17} \quad (1)$$

(Total for Question 19 is 2 marks)

20 In a box of chocolates there are

- 11 milk chocolates
- 5 dark chocolates
- 7 white chocolates

$$11 + 5 + 7 = 23$$

Charlie takes one of the chocolates ~~is take~~ at random.

Write down the probability that Charlie takes a white chocolate.

$$\frac{7}{23}$$

(Total for Question 20 is 2 marks)

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

A counter is picked at random from the bag.

The table shows the probabilities that the counter will be red, will be blue and will be yellow.

Colour	Red	Blue	Yellow	Green
Probability	0.2	0.4	0.3	0.1

Complete the table to show the probability that the counter will be green.

(Total for Question 21 is 2 marks)