1 There are 12 beads in a bag.

6 of the beads are green
4 of the beads are blue
2 of the beads are pink

Peter takes at random a bead from the bag.

(a) Circle the word in the list below that best describes the likelihood that the bead is green.

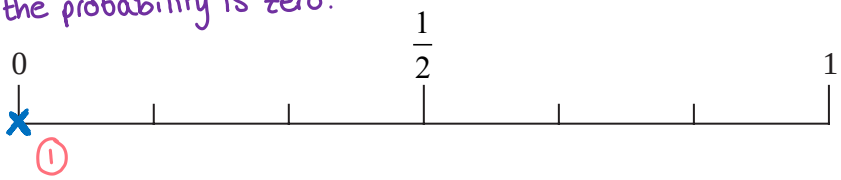
impossible unlikely evens likely certain

$\frac{6}{12}$ = half the beads are green

(1)

(b) On the probability scale, mark with a cross (×) the probability that the bead is orange.

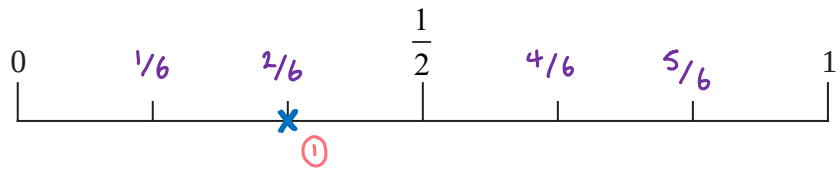
there are no orange beads in the bag, so the probability is zero.



(1)

(c) On the probability scale, mark with a cross (×) the probability that the bead is blue.

$\frac{4}{12} = \frac{2}{6}$ (÷2, ÷2)

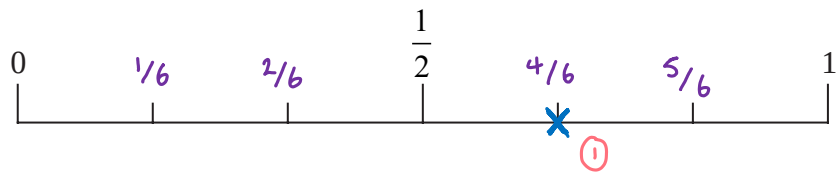


(1)

(d) On the probability scale, mark with a cross (×) the probability that the bead is green or pink.

green + pink: $\frac{6+2}{12} = \frac{8}{12}$

$\frac{8}{12} = \frac{4}{6}$



(1)

(Total for Question 1 is 4 marks)

2 Caroline has a bag containing 10 counters.

In the bag there are

7 red counters
2 blue counters
1 green counter

Caroline is going to choose at random a counter from the bag.

impossible	unlikely	evens	likely	certain

(a) Write down the word from the box that best describes the likelihood that Caroline will take

(i) a red counter,

$\frac{7}{10}$

likely (1)

(ii) a yellow counter.

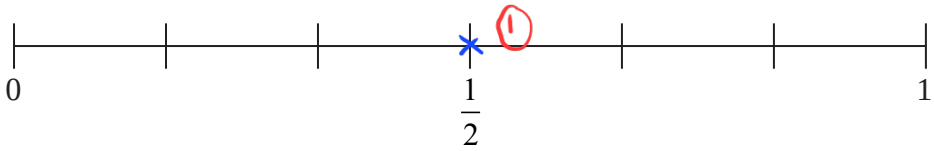
impossible (1)

(2)

Jamil is going to roll a fair six-sided dice.

(b) On the probability scale, mark with a cross (×) the probability that the dice will land on an odd number.

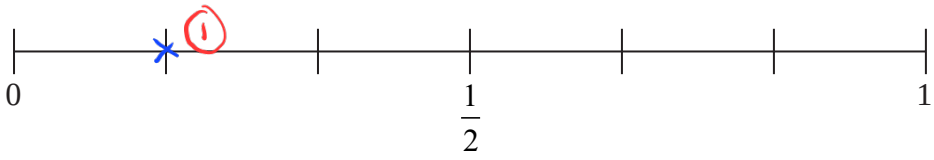
$\frac{3}{6} = \frac{1}{2}$



(1)

(c) On the probability scale, mark with a cross (×) the probability that the dice will land on 2

$\frac{1}{6}$



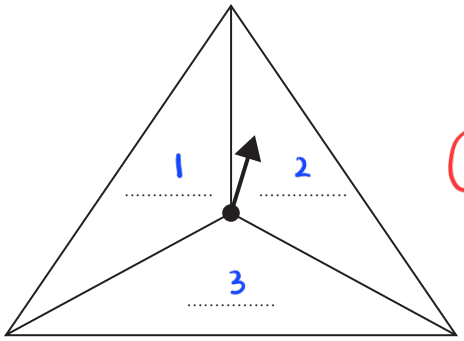
(1)

(Total for Question 2 is 4 marks)

3 Sandeep is designing some 3-sided spinners.

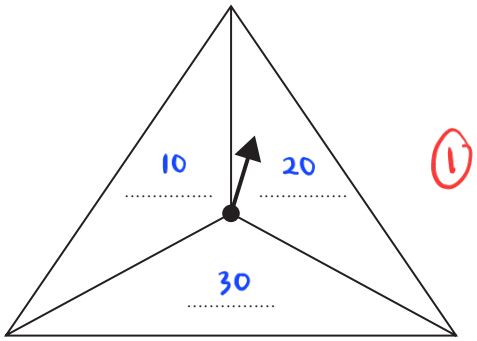
He is going to spin each spinner once.

(a) (i) Write a different number on each dotted line so that when the spinner is spun it is **impossible** that the spinner will land on a number greater than 9



(1)

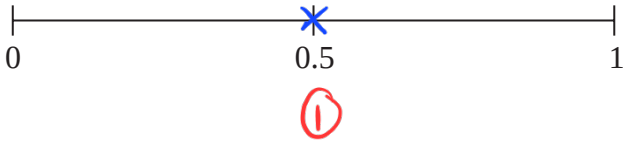
(ii) Write a different number on each dotted line so that when the spinner is spun it is **certain** that the spinner will land on a multiple of 10



(1)

The likelihood of an outcome is **evens**.

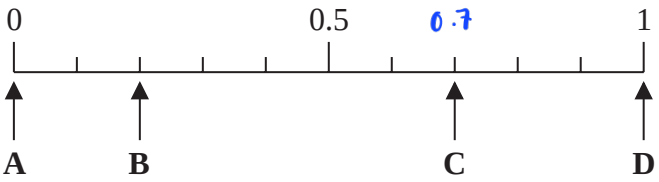
(b) On the probability scale, mark with a cross (×) the probability of this outcome.



(1)

(Total for Question 3 is 3 marks)

4 Here is a probability scale.



In a fruit bowl, there are only

3 bananas
7 pears

Shimon is going to take at random one of the fruits from the bowl.

(a) Write down the letter of the arrow that points to the probability that Shimon takes

(i) a pear,

$\frac{7}{10} = 0.7$

C (1)

.....

(1)

(ii) a grape.

0

A (1)

.....

(1)

Emma has some carrots, some potatoes and some onions in a bag.
She says that the probability of taking at random a carrot from the bag is 1.4

Emma is not correct.

(b) Explain why.

Probability cannot be more than 1. (1)

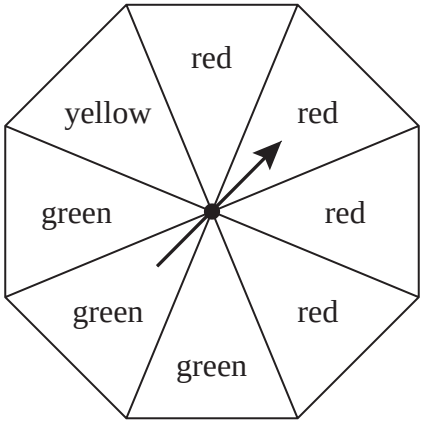
.....

.....

(1)

(Total for Question 4 is 3 marks)

5 The diagram shows a fair 8-sided spinner.



Hollie is going to spin the spinner once.

impossible	unlikely	evens	likely	certain

(a) Write down the word from the box above that best describes the likelihood that the spinner will land on

(i) yellow : $\frac{1}{8}$

unlikely (1)

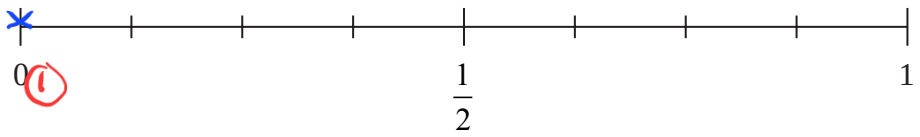
(1)

(ii) red. : $\frac{4}{8}$

evens (1)

(1)

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



(1)

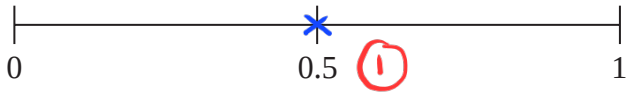
(Total for Question 5 is 3 marks)

6 Adam has 8 packets of noodles.
Here is the flavour of noodles in each packet.

Hot and Spicy	Curry	Vegetarian	Hot and Spicy
Curry	Hot and Spicy	Curry	Hot and Spicy

Adam takes at random a packet of noodles.

(a) (i) On the probability scale, mark with a cross (×) the probability that Adam takes a packet of Hot and Spicy noodles.



(1)

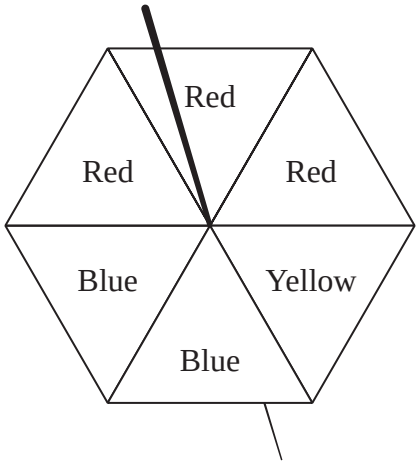
(ii) Circle the word that best describes the likelihood that Adam takes a packet of Vegetarian noodles.

impossible | unlikely | even | likely | certain

(1)

(Total for Question 6 is 2 marks)

7 The diagram shows a fair spinner with six sections.



Three sections are red, two sections are blue and one section is yellow.

impossible	unlikely	evens	likely	certain

The spinner is spun once.

(a) Write down a word from the box to describe the likelihood that the spinner lands on yellow.

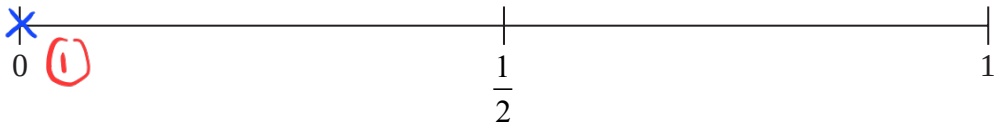
$\frac{1}{6}$

unlikely (1)

.....

(1)

(b) On the probability scale, mark with a cross (×) the probability that the spinner lands on green.



(1)

Here are 8 number cards.
3 of the number cards are blank.

4	5	4	1	7	2	3	6

(1)

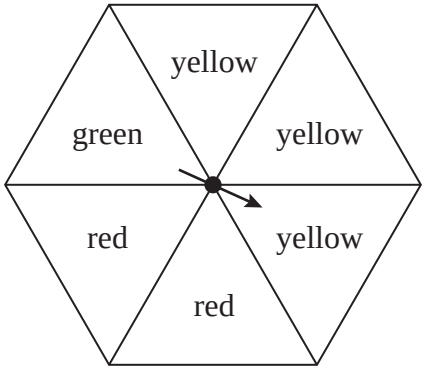
Hugo is going to take at random one of these cards.

(c) Write a number on each of the 3 blank cards so that the probability that Hugo picks a card with an odd number is $\frac{1}{2}$

(1)

(Total for Question 7 is 3 marks)

8 The diagram shows a fair 6-sided spinner.



Mario spins the arrow on the spinner once.

impossible	unlikely	evens	likely	certain

Write down the word from the box that best describes the likelihood that the arrow will land on

(i) green

unlikely (1)

(1)

(ii) yellow

evens (1)

(1)

(iii) blue

impossible (1)

(1)

(Total for Question 8 is 3 marks)

9 A hall has 26 rows of seats.
There are 14 seats in each row.

Annie sells tickets for $\frac{3}{4}$ of the seats in the hall for a concert.

She sells each ticket for 15 euros.

Work out the total amount Annie gets from selling tickets.

Total number of seats : $26 \times 14 = 364$ (1)

Seats sold : $\frac{3}{4} \times 364 = 273$ (1)

Amount Annie gets : $273 \times 15 = 4095$ (1)

4095 ..... euros

(Total for Question 9 is 3 marks)