Chhetri Academy

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GCSE MATHS

Probability

Edexcel 1MA1 | Subtopic collection Topic 52

Probability and relative frequency

Foundation tier

Past paper question booklet

116	2010-2025	Foundation
question groups	available papers	tier

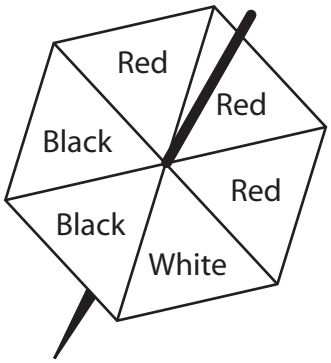
Before you begin

1. Show working and use units where appropriate.
2. Use extra paper if you need more space.
3. Print at actual size (100%) for measurement questions.

Name _____ **Date** _____

Whole questions are retained for context; some parts cover other points. Legacy sources are labelled.

4



Here is a fair 6-sided spinner.
Jack will spin the spinner once.
The spinner will land on one of the colours.

Draw a circle around the word to best describe the probability of the following events.

(a) The spinner will land on White.

(1)

impossible unlikely even likely certain

(b) The spinner will land on Red.

(1)

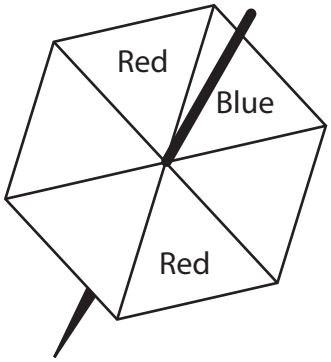
impossible unlikely even likely certain

(c) The spinner will land on Pink.

(1)

impossible unlikely even likely certain

Here is a different fair 6-sided spinner.
Jack will spin this spinner once.



The spinner is more likely to land on Blue than to land on Red.

(d) Write the missing colours on the spinner.

(1)

(Total for Question 4 is 4 marks)

4 The table shows information about 6 students.

Name	Age in years	Tutor Group	Studying Spanish	Studying French
Callum	16	11A	Yes	No
Seema	16	11B	No	Yes
Mark	15	11B	Yes	Yes
Abby	15	11A	Yes	No
Ben	16	11B	No	Yes
Lori	15	11B	Yes	Yes

(a) Write down the number of students studying Spanish.

.....

(1)

(b) Write down the names of the students aged 15 years **and** in Tutor Group 11B.

.....

(1)

A student is going to be chosen at random.

(c) Write down the probability that this student is in Tutor Group 11A.

.....

(2)

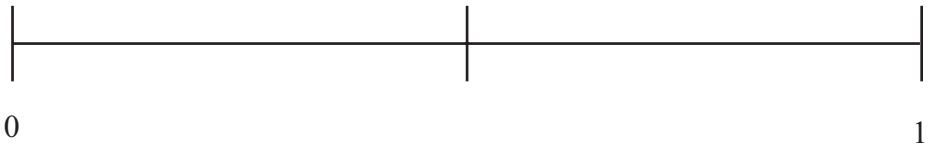
(Total for Question 4 is 4 marks)

5 A bag contains 4 beads.

2 beads are blue.
1 bead is red.
1 bead is yellow.

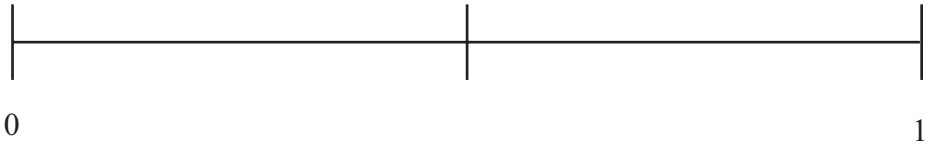
Connor takes at random a bead from the bag.

(a) On the probability scale, mark with a cross (X) the probability that he takes a blue bead.



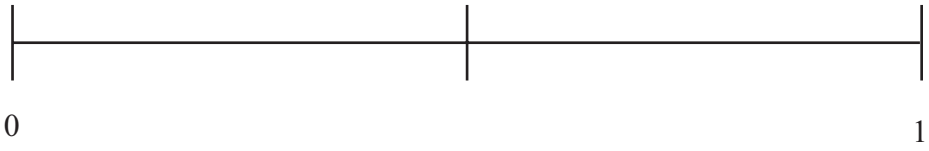
(1)

(b) On the probability scale, mark with a cross (X) the probability that he takes a yellow bead.



(1)

(c) On the probability scale, mark with a cross (X) the probability that he takes a white bead.



(1)

(Total for Question 5 is 3 marks)

13 Jake plays a game of throwing a ball at a target.

The table shows information about the probability of each possible score.

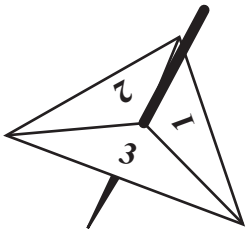
Score	0	1	2	3	4	5
Probability	0.09	x	0.18	0.16	0.21	0.30

Work out the value of x.

.....

(Total for Question 13 is 2 marks)

4 Angela has a 3-sided spinner.
The sides of the spinner are numbered 1, 2 and 3



(a) Angela spins the spinner once.

(i) Choose the word that best describes the probability that the spinner will land on the number 4

impossible unlikely evens likely certain

.....

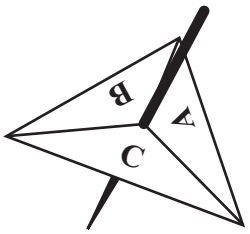
(ii) Choose the word that best describes the probability that the spinner will land on a number less than 4

impossible unlikely evens likely certain

.....

(2)

Steve also has a 3-sided spinner.
The sides of Steve's spinner are lettered A, B and C.



Angela spins her spinner once.
Steve then spins his spinner once.

(b) List all the possible outcomes of these two spins.

.....

.....

(2)

(Total for Question 4 is 4 marks)

8 The two-way table shows some information about how some students travelled to school yesterday.

	Walk	Bus	Cycle	Total
Boys		4	4	13
Girls	2	6	3	11
Total	7	10	7	24

One of these students is picked at random.

Work out the probability that this student will be a boy who walked to school yesterday.

.....

(Total for Question 8 is 3 marks)

13 Denzil has a 4-sided spinner.
The sides of the spinner are numbered 1, 2, 3 and 4
The spinner is biased.

The table shows each of the probabilities that the spinner will land on 1, on 3 and on 4
The probability that the spinner will land on 3 is x.

Number	1	2	3	4
Probability	0.3		x	0.1

(a) Find an expression, in terms of x, for the probability that the spinner will land on 2
Give your answer in its simplest form.

.....

(2)

Denzil spins the spinner 300 times.

(b) Write down an expression, in terms of x, for the number of times the spinner is likely to land on 3

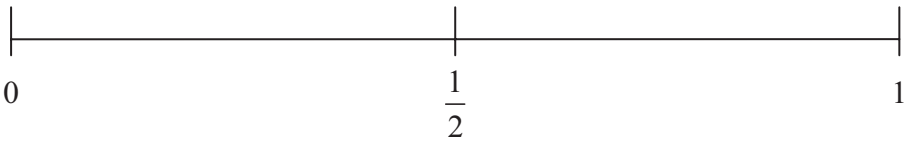
.....

(1)

(Total for Question 13 is 3 marks)

3 Laura throws a fair coin once.

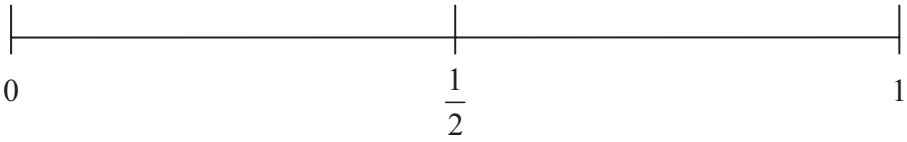
(a) On the probability scale below, mark with a cross (×) the probability that she gets a head.



(1)

Ben rolls an ordinary dice once.

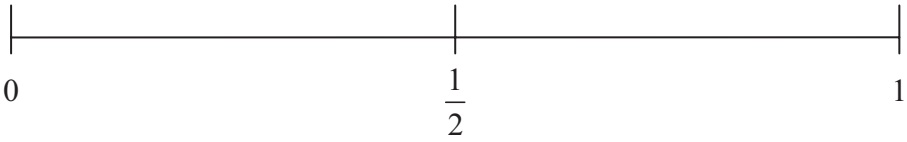
(b) On the probability scale below, mark with a cross (×) the probability that he rolls a number less than 8



(1)

There are one orange sweet and three lemon sweets in a bag.
Rory takes at random one sweet from the bag.

(c) On the probability scale below, mark with a cross (×) the probability that he takes an orange sweet.



(1)

(Total for Question 3 is 3 marks)

12 There are yellow discs, red discs, blue discs and green discs in a bag.
Dinesh is going to take at random a disc from the bag.

The table shows each of the probabilities that Dinesh will take a red disc, or a blue disc, or a green disc.

Colour	yellow	red	blue	green
Probability		0.40	0.25	0.15

(a) Work out the probability that he will take a yellow disc.

.....

(2)

Dinesh takes at random a disc from the bag.
He writes down the colour of the disc.
He puts the disc back into the bag.

He will do this 60 times.

(b) Work out an estimate for the number of times he takes a red disc from the bag.

.....

(2)

(Total for Question 12 is 4 marks)

5 Keira uses letter cards to spell the word MATHEMATICS.

M	A	T	H	E	M	A	T	I	C	S

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

(a) Choose the word that best describes the probability that the card will have the letter S on it.

impossible unlikely evens likely certain

.....

(1)

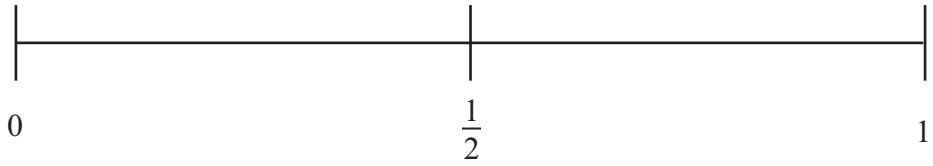
(b) Choose the word that best describes the probability that the card will have the letter P on it.

impossible unlikely evens likely certain

.....

(1)

(c) On the probability scale below, mark with a cross (×), the probability that the card will have the letter K on it.



(1)

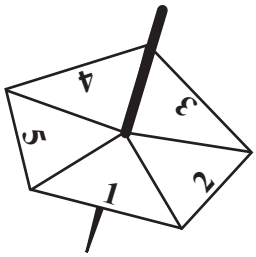
(d) Write down the probability that the card will have the letter M on it.

.....

(2)

(Total for Question 5 is 5 marks)

12 Here is a five-sided spinner.



The table shows the probabilities that the spinner will land on 1 or 2 or 3 or 4 or 5

Number	1	2	3	4	5
Probability	0.15	0.20	0.10	0.25	0.30

Pete spins the spinner once.

(a) Work out the probability that the spinner will land on a number greater than 2

.....

(2)

Elinor is going to spin the spinner 200 times.

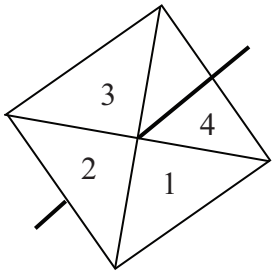
(b) Work out an estimate for the number of times the spinner will land on 5

.....

(2)

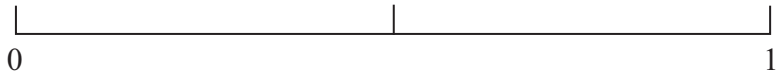
(Total for Question 12 is 4 marks)

10 Here is a fair 4-sided spinner.



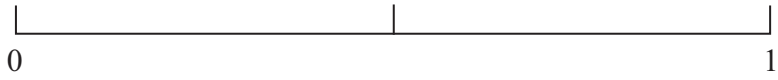
Simon is going to spin the spinner once.
The spinner will land on 1 or on 2 or on 3 or on 4

(a) On the probability scale, mark with a letter **A** the probability that the spinner will land on the number 6



(1)

(b) On the probability scale, mark with a letter **B** the probability that the spinner will land on the number 3



(1)

(Total for Question 10 is 2 marks)

18 Sue has a bag of 18 sweets.

5 of the sweets are blue
7 of the sweets are red
6 of the sweets are green

Sue takes at random a sweet from the bag.

Write down the probability that Sue

(i) takes a red sweet,

.....

(ii) does **not** take a green sweet,

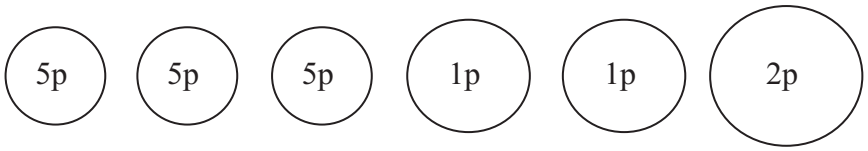
.....

(iii) takes a yellow sweet.

.....

(Total for Question 18 is 3 marks)

3 The diagram shows some coins.



There are three 5p coins, two 1p coins and one 2p coin.

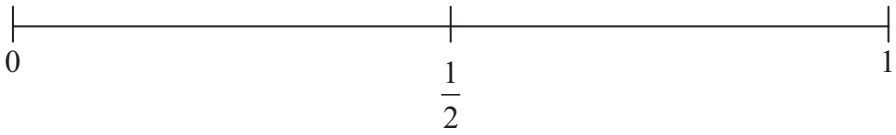
Yasmin takes at random one of these coins.

(i) Which word best describes the probability that she will take a 20p coin?

impossible unlikely evens likely certain

.....

(ii) On the probability scale, mark with a cross (×) the probability that she will take a 5p coin.

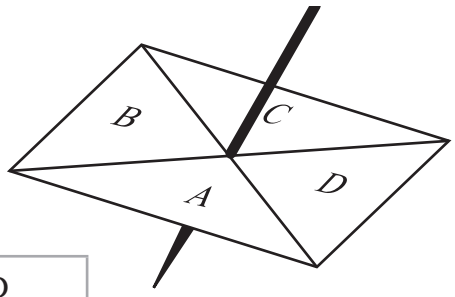


(iii) Write down the probability that she will take a 2p coin.

.....

(Total for Question 3 is 3 marks)

13 Sandy has a 4-sided spinner.
The sides of the spinner are labelled A, B, C and D.
The spinner is biased.



The table shows the probability that the spinner will land on A or on B or on C.

Side	A	B	C	D
Probability	0.15	0.32	0.27	

(a) Work out the probability that the spinner will land on D.

.....

(2)

Sandy spins the spinner 300 times.

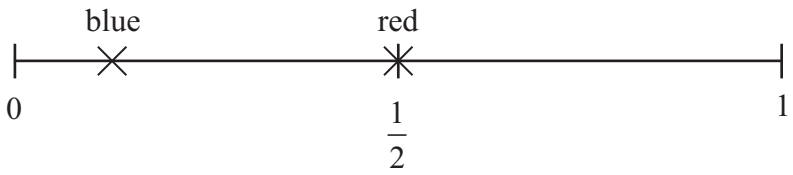
(b) Work out an estimate for the number of times the spinner will land on A.

.....

(2)

(Total for Question 13 is 4 marks)

9 (a) The probability scale shows the probability that a spinner will land on red.
It also shows the probability that the spinner will land on blue.



Tony says the spinner is more likely to land on blue than on red.

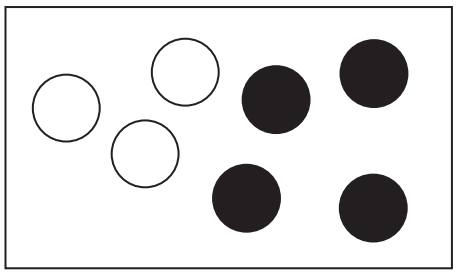
Is he right?
Explain your answer.

.....

.....

(1)

(b) There are 3 white counters and 4 black counters in a box.



Jenny is going to take at random a counter from the box.

(i) Write down the probability that Jenny will take a black counter.

.....

(ii) Write down the probability that Jenny will take a yellow counter.

.....

(2)

(Total for Question 9 is 3 marks)

22 Hannah has a biased coin.
She is going to throw the coin once.
The probability of getting heads is 0.7

(a) Work out the probability of getting tails.

.....

(2)

Jamal is going to throw this coin 200 times.

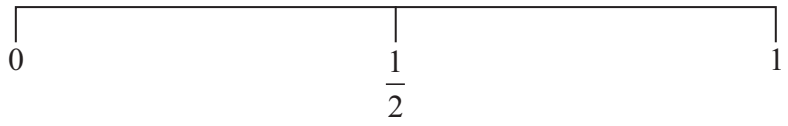
(b) Work out an estimate for the number of heads Jamal will get.

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(2)

(Total for Question 22 is 4 marks)

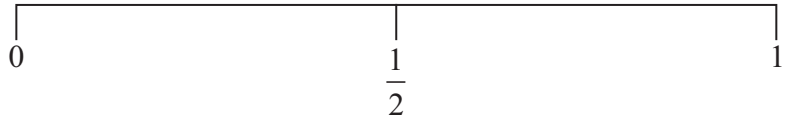
6 (a) On the probability scale below, mark with a cross (×) the probability that a woman has 20 sisters.



(1)

There are 6 red beads and 3 green beads in a tin.
Adam takes at random 1 bead from the tin.

(b) On the probability scale below, mark with a cross (×) the probability that Adam takes a red bead.



(1)

(Total for Question 6 is 2 marks)

14 There are

4 yellow crayons
5 red crayons
3 green crayons

in a box.

Jan takes at random a crayon from the box.

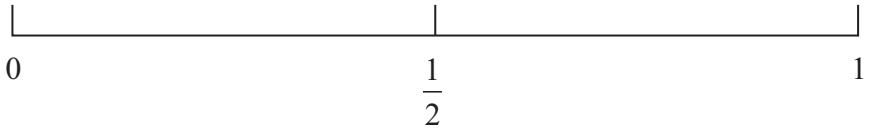
Write down the probability that the crayon is green.

.....

(Total for Question 14 is 2 marks)

4 Liam throws a fair coin once.

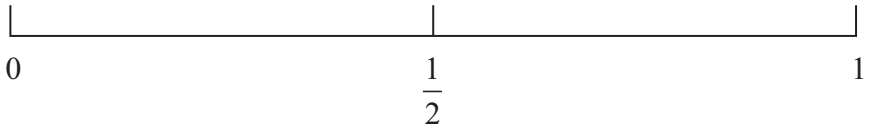
(a) On the probability scale below, mark with a cross (×) the probability that he gets a head.



(1)

Ann rolls a fair dice once.

(b) On the probability scale below, mark with a cross (×) the probability that she gets a 7



(1)

Fred throws a fair coin and rolls a fair dice.

(c) (i) List all the possible combinations.
The first one has been done for you.

(H, 1).....

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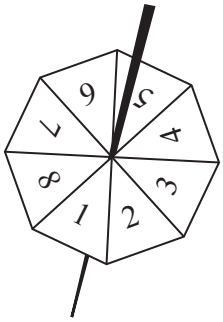
(ii) Write down the probability that Fred gets a head and an even number.

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(4)

(Total for Question 4 is 6 marks)

6 Here is a fair 8-sided spinner used in a game.



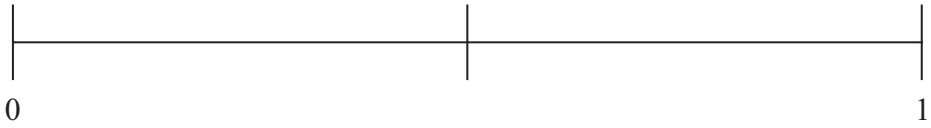
Alan spins the spinner once.

Work out the probability that the spinner will land on 8

.....

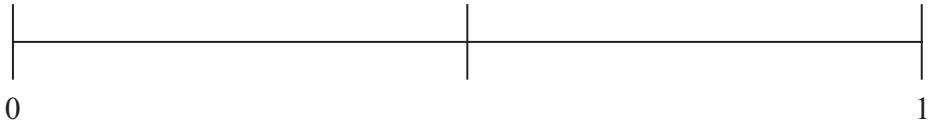
(Total for Question 6 is 1 mark)

7 (a) On the probability scale below, mark with a cross (×) the probability that an ordinary fair dice when thrown once will land on an even number.



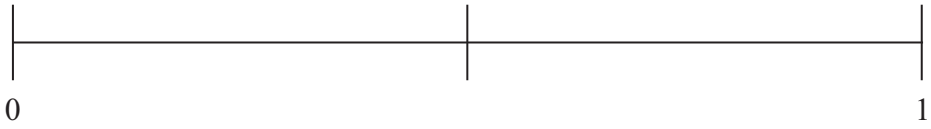
(1)

(b) On the probability scale below, mark with a cross (×) the probability that an ordinary fair dice when thrown once will land on a 5



(1)

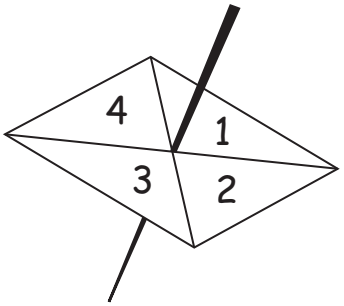
(c) On the probability scale below, mark with a cross (×) the probability that an ordinary fair dice when thrown once will land on a number less than 7



(1)

(Total for Question 7 is 3 marks)

26 Here is a four sided spinner.
The spinner is biased.



The table shows the probabilities that the spinner will land on 1 or on 3

Number	1	2	3	4
Probability	0.2		0.1	

The probability that the spinner will land on 2 is the same as the probability that the spinner will land on 4

(a) Work out the probability that the spinner will land on 4

.....

(3)

Shunya is going to spin the spinner 200 times.

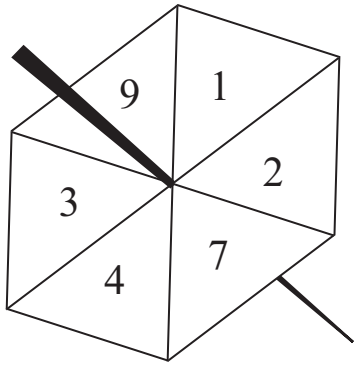
(b) Work out an estimate for the number of times the spinner will land on 3

.....

(2)

(Total for Question 26 is 5 marks)

18 Here is a fair 6-sided spinner.



Jake is going to spin the spinner once.

(a) Write down the probability that the spinner will land

(i) on 4

.....

(ii) on a number greater than 10

.....

(2)

Liz is going to spin the spinner 120 times.

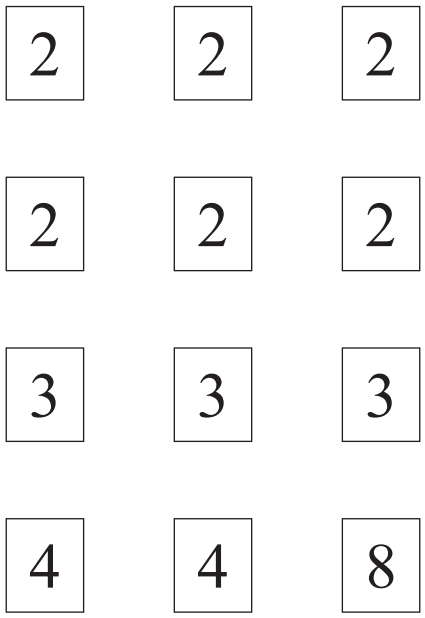
(b) Work out an estimate for the number of times the spinner will land on 7

.....

(2)

(Total for Question 18 is 4 marks)

1 The diagram shows 12 cards.
There is a number on each card.



Riki takes at random one of these cards.

(a) Which number is **most** likely to be on the card?

.....

(1)

(b) Which number is **least** likely to be on the card?

.....

(1)

(Total for Question 1 is 2 marks)

13 There are 100 beads in a bag.

50 of the beads are red
25 of the beads are blue
15 of the beads are green
The rest of the beads are yellow

Sally takes at random a bead from the bag.

What is the probability that the bead is

(a) green,

.....

(2)

(b) black,

.....

(1)

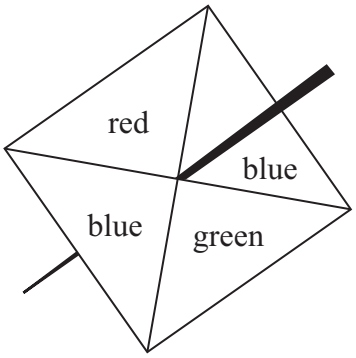
(c) yellow?

.....

(2)

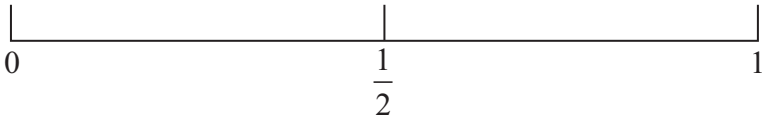
(Total for Question 13 is 5 marks)

6 Here is a fair 4-sided spinner.



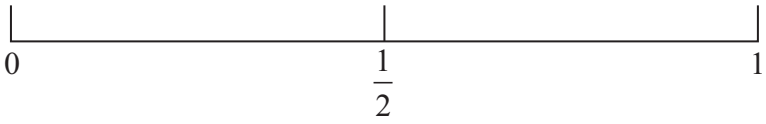
Lily will spin the spinner once.
The spinner will land on one of the colours.

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



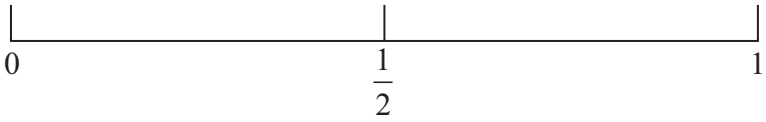
(1)

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



(1)

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



(1)

(Total for Question 6 is 3 marks)

16

likely	impossible	certain	evens	unlikely

(a) Use a word from the box which best describes the probability of each of the following events.

(i) When you throw an ordinary coin you get a tail.

.....

(ii) When you throw an ordinary dice you get a number less than 7

.....

(2)

Bill has some counters in a bag.

3 of the counters are red.
7 of the counters are blue.
The rest of the counters are yellow.

Bill takes at random a counter from the bag.

The probability that he takes a yellow counter is $\frac{2}{7}$

(b) How many yellow counters are in the bag before Bill takes a counter?

.....

(2)

(Total for Question 16 is 4 marks)

2 Jose throws a fair coin once.

(a) Choose the word that best describes the likelihood he will get a tail.

impossible unlikely evens likely certain

.....

(1)

Grace rolls an ordinary dice once.

(b) Choose the word that best describes the likelihood she will get a 6

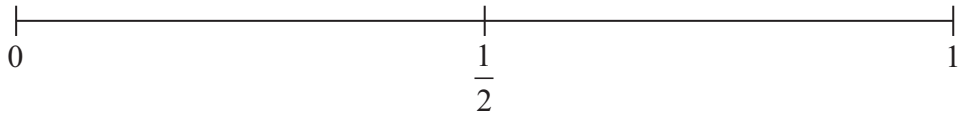
impossible unlikely evens likely certain

.....

(1)

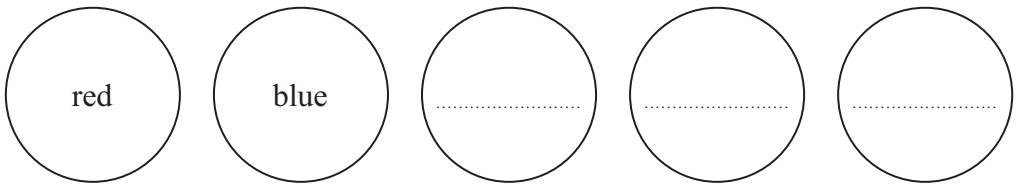
There are only red sweets in a bag.
Stella takes at random one sweet from the bag.

(c) On the probability scale below, mark with a cross (×) the probability that she takes a red sweet.



(1)

Here are some counters.
The counters are coloured either red or blue.
Three of the counters have not been marked with a colour.



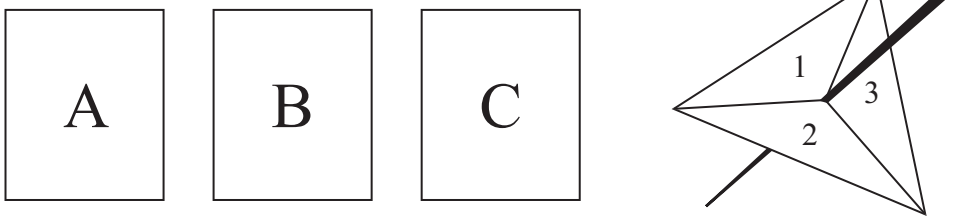
Gill is going to take at random one of the counters.
She is more likely to take a red counter than a blue counter.

(d) Write a suitable colour on each of the unmarked counters.

(1)

(Total for Question 2 is 4 marks)

7 Steve has three cards and a fair 3-sided spinner.



The cards are labelled A, B and C.
The sides of the spinner are labelled 1, 2 and 3

Steve is going to take at random one card.
He is then going to spin the spinner.

(a) List all the possible outcomes he can get.
The first one is done for you.

(A, 1) .....

.....

.....

(2)

(b) Write down the probability the card will be labelled B and the spinner will land on 2

.....

(1)

(Total for Question 7 is 3 marks)

12 Tim plays a game.
He can win the game or he can lose the game or he can draw the game.

The probability that Tim will win the game is 0.25
The probability that Tim will lose the game is x.

(a) Give an expression, in terms of x, for the probability that he will draw the game.

.....

(2)

Tim plays the game 240 times.

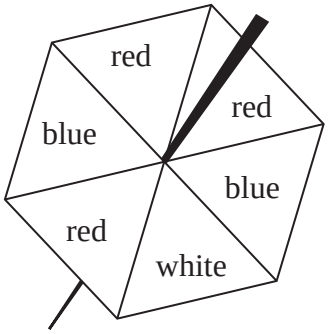
(b) Work out an estimate for the number of times he will win the game.

.....

(2)

(Total for Question 12 is 4 marks)

2 Here is a fair 6-sided spinner.



Ryan is going to spin the spinner once.

(a) Which colour is the spinner most likely to land on?

.....

(1)

(b) Choose the word that best describes the probability that the spinner will land on white.

impossible unlikely evens likely certain

.....

(1)

(c) Choose the word that best describes the probability that the spinner will land on green.

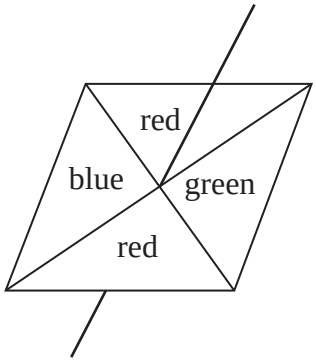
impossible unlikely evens likely certain

.....

(1)

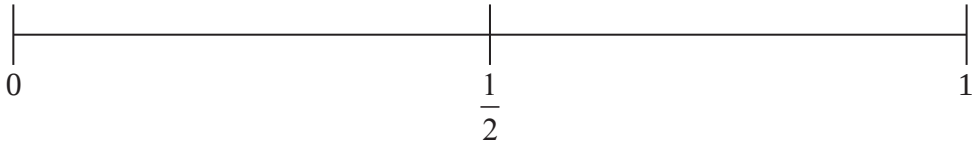
(Total for Question 2 is 3 marks)

4 Here is a fair 4-sided spinner.
The spinner can land on blue or on red or on green.



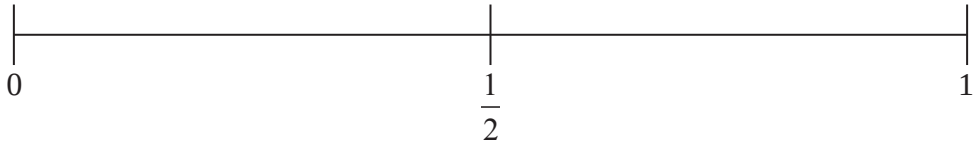
Lance spins the spinner once.

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



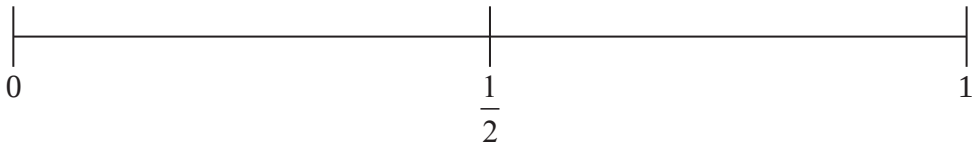
(1)

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



(1)

(c) On the probability scale, mark with a cross (×) the probability that the spinner will **not** land on green.



(1)

(Total for Question 4 is 3 marks)

12 There are 72 guests staying in a hotel.
They are French or German or Spanish.

The two-way table shows some information about the guests.

	French	German	Spanish	Total
Female	17		14	40
Male		13		32
Total	29		21	72

(a) Complete the two-way table.

(2)

One of these guests is picked at random.

(b) Write down the probability that the guest is female.

.....

(1)

One of the male guests is picked at random.

(c) Write down the probability that this male guest is German.

.....

(1)

(Total for Question 12 is 4 marks)

15 There are 20 sweets in a box.
x of the sweets are red.
The rest of the sweets are yellow.

Tom takes at random a sweet from the box.

Write down an expression, in terms of x, for the probability that Tom takes a yellow sweet.

.....

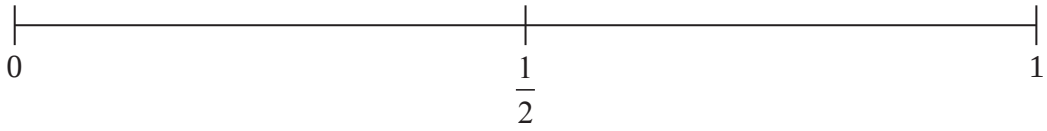
(Total for Question 15 is 2 marks)

7 Tom uses 10 letter cards to spell out the word 'statistics'.

S	T	A	T	I	S	T	I	C	S

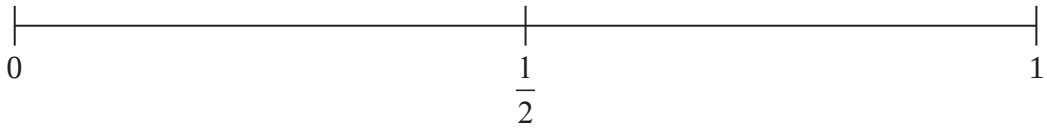
Tom is going to take at random one of these cards.

(a) On the probability scale below, mark with a cross (×) the probability that the card has the letter **S** on it.



(1)

(b) On the probability scale below, mark with a cross (×) the probability that the card has the letter **P** on it.



(1)

One letter has the probability of $\frac{1}{5}$ of being taken.

(c) Write down this letter.

.....

(1)

(Total for Question 7 is 3 marks)

12 The two-way table shows some information about how some men and some women travelled to work yesterday.

	Train	Car	Bus	Total
Men	12		6	28
Women		4		
Total			13	50

(a) Work out the total number of women.

.....

(1)

(b) Work out the number of people who travelled to work by train yesterday.

.....

(3)

A man is chosen at random from all these men.

(c) Write down the probability that he travelled to work by train.
Give your answer as a fraction in its simplest form.

.....

(2)

(Total for Question 12 is 6 marks)

13 Olu is going to take at random a counter from a bag.
The probability that he will take a red counter is 0.6

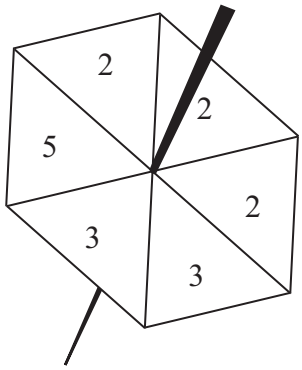
Olu writes down the colour of the counter.
He then puts the counter back in the bag.
Olu does this 50 times.

Work out an estimate for the number of times that Olu takes a red counter from the bag.

.....

(Total for Question 13 is 2 marks)

10 Meela has a fair 6-sided spinner.
The sides of the spinner are numbered 2, 2, 2, 3, 3, 5



Meela spins the spinner once.

(a) Which number is the spinner **least** likely to land on?

.....

(1)

(b) From the following list, choose the word that best describes the likelihood that the spinner will land on 2

impossible unlikely evens likely certain

.....

(1)

(c) Write down the probability that the spinner will land on 3

.....

(2)

(Total for Question 10 is 4 marks)

5 Here is some information about flower bulbs.

Flower bulb	Planting season	Flowering season
alium	autumn	summer
amaryllis	spring	autumn
daffodil	autumn	spring
nerine	autumn	autumn
sternbergia	spring	autumn
tulip	winter	spring

(a) What is the planting season for tulip bulbs?

.....

(1)

(b) Sternbergia has the same planting season as one other flower bulb.

Which flower bulb?

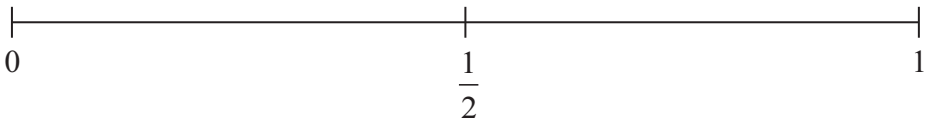
.....

(1)

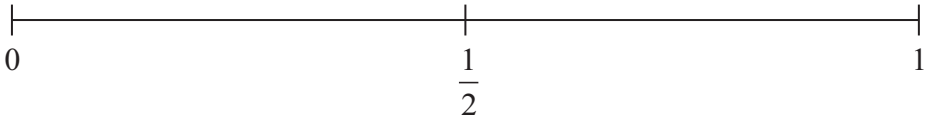
There is one of each of the six flower bulbs in a bag.

Carol takes at random a bulb from the bag.

(c) (i) On the probability scale below, mark with a cross (×) the probability that the bulb has a flowering season in winter.



(ii) On the probability scale below, mark with a cross (×) the probability that the bulb has a flowering season in autumn.



(2)

(Total for Question 5 is 4 marks)

17 100 students each chose one activity.
Each student chose bowling or karting or ice skating.

The two-way table shows some information about the activities the students chose.

	Bowling	Karting	Ice skating	Total
Boys		13		47
Girls			34	
Total	26	20		100

(a) Complete the two-way table.

(3)

One of the boys is chosen at random.

(b) What is the probability that this boy chose karting?

.....

(2)

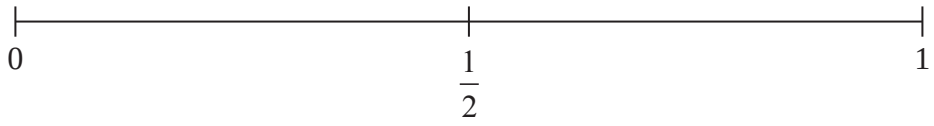
(Total for Question 17 is 5 marks)

8 Tara rolls a fair 6-sided dice once.

(a) (i) Circle the word below that best describes the probability of Tara getting a number less than 6

impossible unlikely evens likely certain

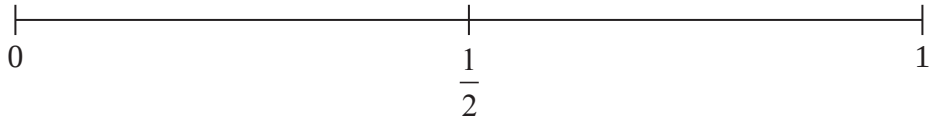
(ii) On the probability scale below, mark with a cross (×) the probability that Tara gets a 10



(2)

Olga throws a fair coin once.

(b) On the probability scale below, mark with a cross (×) the probability that she gets tails.



(1)

Yasmin rolls a fair 6-sided dice once.
She then throws a fair coin once.

(c) List all the possible combinations Yasmin can get.

.....

.....

.....

(2)

(Total for Question 8 is 5 marks)

10 There are 105 cars in a college car park.

Teachers own 68 of the cars.
Students own 15 of the cars.

One of the cars in the car park is chosen at random.

(a) Write down the probability that this car is owned by a teacher.

.....

(1)

(b) Work out how many of the cars are **not** owned by either a teacher or by a student.

.....

(2)

(c) Work out what percentage of the cars in the car park are owned by students.
Give your answer correct to 1 decimal place.

..... %

(2)

(Total for Question 10 is 5 marks)

22 Uditi has a bag of chocolate sweets.

There are 30 sweets in the bag.

This table shows the types of sweets in the bag.

	Strawberry	Caramel	Nut
Dark chocolate	3	1	6
Milk chocolate	4	5	2
White chocolate	1	4	4

Uditi takes at random a sweet from the bag.

(a) Write down the probability that the sweet is a dark chocolate caramel.

.....

(1)

(b) Work out the probability that the sweet is a white chocolate.

.....

(2)

There are some dark chocolates, some milk chocolates and some white chocolates in a box.

The table below shows the probabilities that a chocolate taken at random from the box is a dark chocolate or is a milk chocolate.

	Dark chocolate	Milk chocolate	White chocolate
Probability	0.35	0.17	

A chocolate is taken at random from the box.

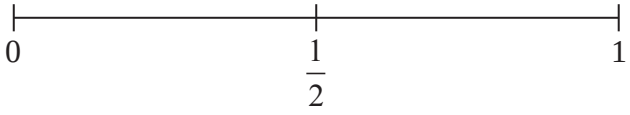
(c) Work out the probability that the chocolate is a white chocolate.

.....

(2)

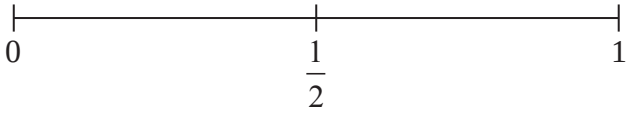
(Total for Question 22 is 5 marks)

3 (a) On the probability scale, mark with a cross (×) the probability that the next baby born in England will be a boy.



(1)

(b) On the probability scale, mark with a cross (×) the probability that when an ordinary dice is thrown it will land on the number 7



(1)

Here is a list of words.

impossible unlikely evens likely certain

Chen throws 3 fair coins.

(c) Choose one word from the list that best describes the likelihood that Chen will get heads with all 3 coins.

.....

(1)

(Total for Question 3 is 3 marks)

10 There are 9 white beads and 11 red beads in a bag.
There are no other beads in the bag.

Jim takes at random a bead from the bag.

(a) Write down the probability that the bead will be white.

.....

(2)

There are 9 green beads and 11 blue beads in a box.
Jim adds 10 more beads to this box.

Jim is going to take at random a bead from the 30 beads in the box.

The probability that he will take a green bead is $\frac{2}{5}$

(b) Work out how many green beads Jim adds to the box.

.....

(3)

(Total for Question 10 is 5 marks)

13 Uzma has a biased coin.

When she throws the coin once, the probability of getting heads is x.

(a) Write down an expression, in terms of x, for the probability of getting tails.

.....

(1)

Uzma throws the coin 200 times.

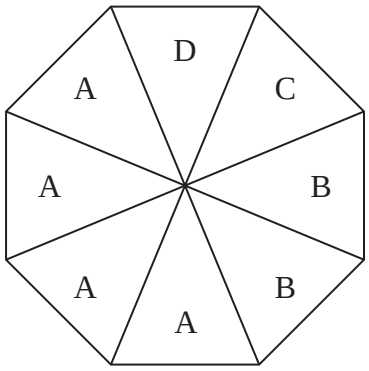
(b) Write down an expression, in terms of x, for an estimate for the number of times she gets tails.

.....

(2)

(Total for Question 13 is 3 marks)

5 Zak has a fair 8-sided spinner for a game.



Zak is going to spin the spinner once.
The spinner will land on A or on B or on C or on D.

impossible	unlikely	evens	likely	certain

(a) From the list above, write down the word that best describes the likelihood

(i) that the spinner will land on C,

.....

(ii) that the spinner will land on F,

.....

(iii) that the spinner will land on A.

.....

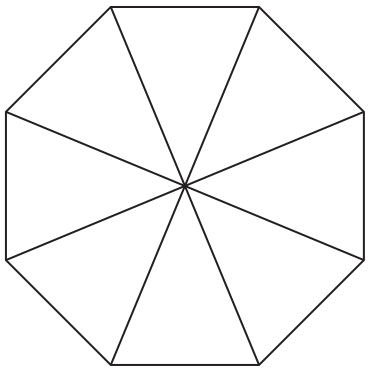
(3)

Jill is making a different fair 8-sided spinner.
She uses the letters J, K, L and M.

The probability that the spinner will land on J
is the same as the probability that it will land on K.

The probability that the spinner will land on L
is twice the probability that it will land on M.

(b) Write the letters on the spinner.



(2)

(Total for Question 5 is 5 marks)

21 There are only red counters and blue counters in a bag.
The ratio of the number of red counters to the number of blue counters is 4 : 6

(a) Write this ratio in its simplest form.

.....

(1)

A counter is to be taken at random from the bag.

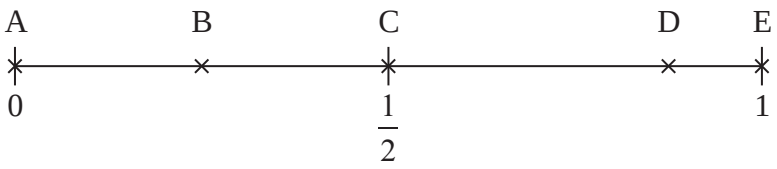
(b) Write down the probability that the counter will be blue.

.....

(2)

(Total for Question 21 is 3 marks)

3 Here is a probability scale.
It shows the probability of each of the events A, B, C, D and E.



(a) Write down the letter of the event that is **impossible**.

.....

(1)

(b) Write down the letter of the event that is **likely** but not certain.

.....

(1)

(Total for Question 3 is 2 marks)

7 Here are 10 letters.

A A B C C C D E E F

Wallid takes at random one of the letters.

(a) Write down the probability that he takes a letter C.

.....

(2)

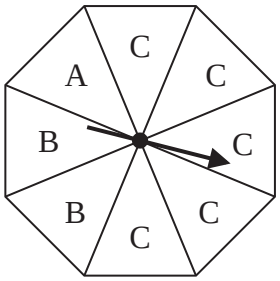
(b) Write down the probability that he does **not** take a letter C.

.....

(1)

(Total for Question 7 is 3 marks)

21 The diagram shows a **fair** eight-sided spinner.



Beth is going to spin the spinner 400 times.

(a) Work out an estimate for the number of times that Beth will get a C.

.....

(2)

Carol spins a **different** spinner 80 times.

The table shows information about her results.

Outcome	Frequency
J	39
K	25
L	16

Dan spins this spinner 300 times.

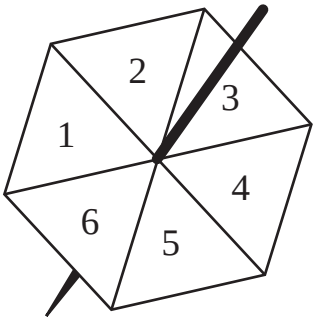
(b) Work out an estimate for the number of times that Dan will get an L.

.....

(3)

(Total for Question 21 is 5 marks)

12 Becky has a fair 6-sided spinner.



Becky will spin the spinner once.

(a) Write down the probability that the spinner will land on the number 4

.....

(1)

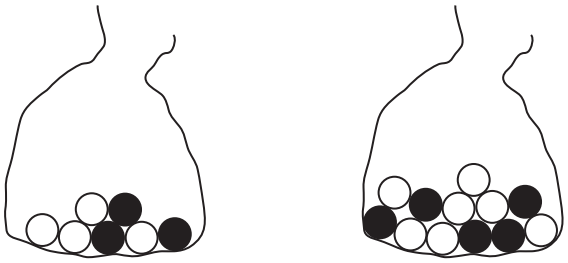
(b) Write down the probability that the spinner will land on a number less than 10

.....

(1)

(Total for Question 12 is 2 marks)

*16 There are only black balls and white balls in bag **A** and in bag **B**, as shown in the diagram.



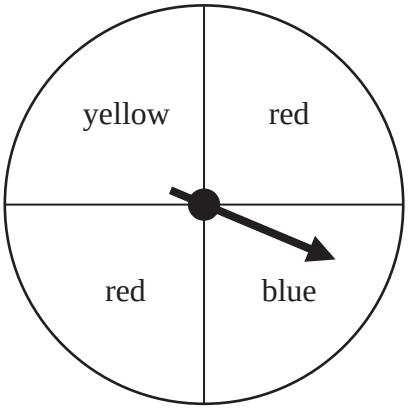
A **B**

Heidi is going to take at random a ball from bag **A** and a ball from bag **B**.

Which bag gives Heidi the greater probability of taking a black ball, bag **A** or bag **B**?
You must show how you get your answer.

(Total for Question 16 is 3 marks)

1 The diagram shows a fair spinner.



Ben spins the arrow on the spinner once.

(a) Choose the word below that best describes the likelihood that the arrow will land on red.

impossible unlikely evens likely certain

.....

(1)

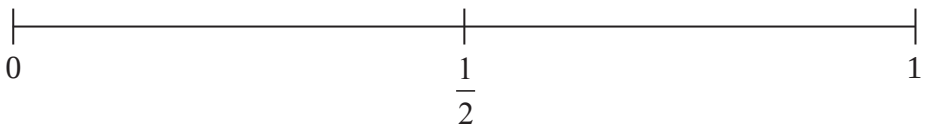
(b) Choose the word below that best describes the likelihood that the arrow will land on green.

impossible unlikely evens likely certain

.....

(1)

(c) On the probability scale, mark with a cross (×) the probability that the arrow will land on blue.

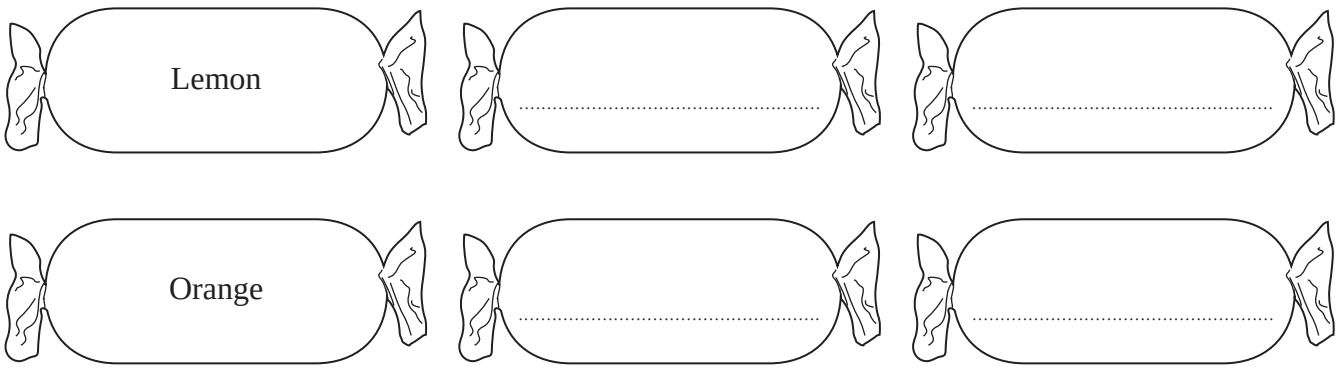


(1)

(Total for Question 1 is 3 marks)

3 There are 6 sweets in a bag.
The flavour of each sweet is either orange or lemon.

The flavour of two of the sweets is marked on the sweet.



Jane is going to take at random one of the sweets from the bag.
She is twice as likely to take an orange sweet as a lemon sweet.

Write a suitable flavour on each of the unmarked sweets.

(Total for Question 3 is 2 marks)

17 A factory produces light bulbs.

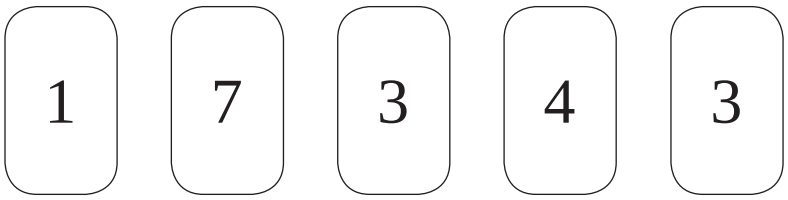
The probability of a light bulb being faulty is 0.03
One day the factory produces 1800 light bulbs.

Work out an estimate for the number of these light bulbs that are **not** faulty.

.....

(Total for Question 17 is 3 marks)

9 Sonia has five number cards.



Sonia puts all five cards on the table to make a number.

(a) Write down the smallest number Sonia can make with the five cards.

.....

(1)

(b) Write down the largest **even** number Sonia can make with the five cards.

.....

(2)

Sonia takes at random one of the cards.

(c) Write down the probability that the card will have the number 7 on it.

.....

(1)

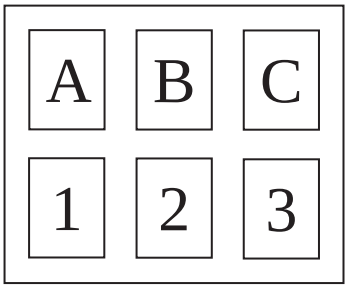
(d) Write down the probability that the card will **not** have the number 7 on it.

.....

(1)

(Total for Question 9 is 5 marks)

20 The diagram shows a security lock.



You have to enter the correct code to open the lock.
The correct code is B3

Dan does **not** know the code.

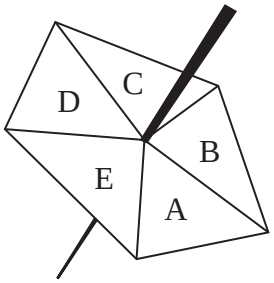
He enters at random one of the letters.
He then enters at random one of the numbers.

Work out the probability that Dan enters the correct code.

.....

(Total for Question 20 is 3 marks)

23 Here is a five-sided spinner.



The table shows the probabilities that the spinner will land on A or on B or on C or on D.

Letter	A	B	C	D	E
Probability	0.25	0.10	0.20	0.15	

Kirsty spins the spinner once.

(a) Work out the probability that the spinner will land on E.

.....

(2)

Chris is going to spin the spinner 60 times.

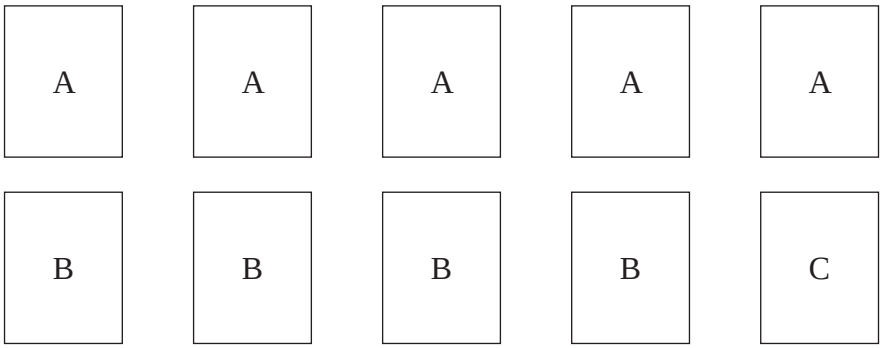
(b) Work out an estimate for the number of times the spinner will land on B.

.....

(2)

(Total for Question 23 is 4 marks)

4 Here are 10 cards.
Each card has a letter on it.



Jai is going to take at random one of the cards.

(a) Draw a circle around the word which best describes the likelihood that

(i) the card will have an A on it,

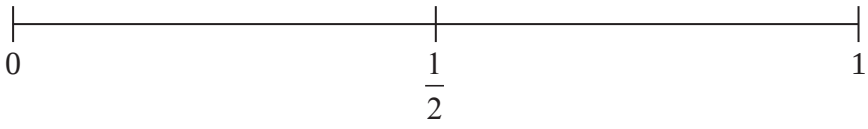
impossible unlikely evens likely certain

(ii) the card will have a C on it.

impossible unlikely evens likely certain

(2)

(b) On the probability scale, mark with a cross (×) the probability that the card will have a D on it.



(1)

(Total for Question 4 is 3 marks)

8 Kerry has two fair 6-sided dice, A and B.

Kerry is going to roll both dice.

(a) Complete the sample space diagram to show all the possible outcomes.

Dice A \ Dice B	**1**	**2**	**3**	**4**	**5**	**6**
1	(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)	(1, 6)
2	(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)	(2, 6)
3	(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)	(3, 6)
4	(4, 1)	(4, 2)	(4, 3)	.....	.....	.....
5	(5, 1)	(5, 2)	(5, 3)	.....	.....	.....
6	(6, 1)	(6, 2)	(6, 3)	.....	.....	.....

(1)

(b) Write down the probability that Kerry will get a 1 on dice A and a 1 on dice B.

.....

(1)

Kerry rolls dice A and dice B.

*(c) Compare the probability that Kerry will get a total of 6 with the probability that she will get a total of 7

.....

.....

(1)

(Total for Question 8 is 3 marks)

24 There are 5 girls, 6 boys and some adults in a room.
Jenny selects at random one of these people.

The probability that Jenny selects a girl is $\frac{1}{3}$

Work out the probability that Jenny selects an adult.

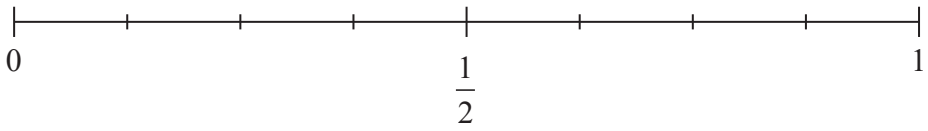
.....

(Total for Question 24 is 3 marks)

4 Luke has a fair 8-sided dice.
The dice is labelled 1, 2, 3, 4, 5, 6, 7 and 8

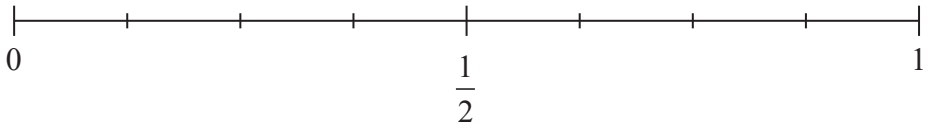
Luke rolls the dice once.

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



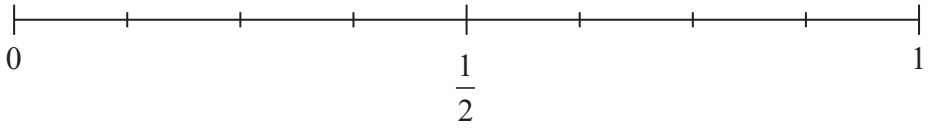
(1)

(b) On the probability scale below, mark with a cross (×) the probability that Luke gets a number less than 10



(1)

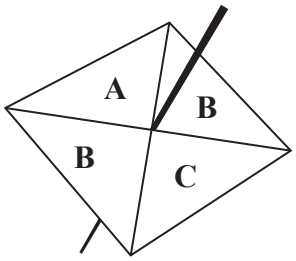
(c) On the probability scale below, mark with a cross (×) the probability that Luke gets a number greater than 6



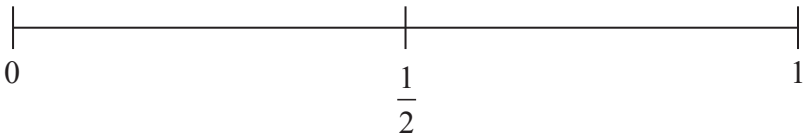
(1)

(Total for Question 4 is 3 marks)

6 Sammy spins a fair 4-sided spinner.

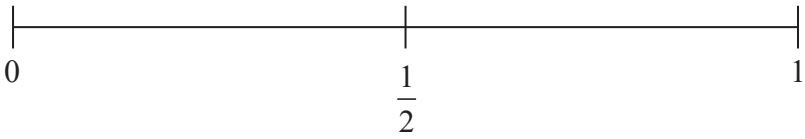


(i) On the probability scale, mark with a cross (×) the probability that the spinner will land on **B**.



(1)

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



(1)

(Total for Question 6 is 2 marks)

Question 66

June 2017 | 1MA1/1F | Original Q12

12 There are only 7 blue pens, 4 green pens and 6 red pens in a box.

One pen is taken at random from the box.

Write down the probability that this pen is blue.

.....

(Total for Question 12 is 2 marks)

Question 67

7 The probability that a new fridge has a fault is 0.015

What is the probability that a new fridge does **not** have a fault?

.....

(Total for Question 7 is 1 mark)

17 The table shows the probabilities that a biased dice will land on 2, on 3, on 4, on 5 and on 6

Number on dice	**1**	**2**	**3**	**4**	**5**	**6**
Probability		0.17	0.18	0.09	0.15	0.1

Neymar rolls the biased dice 200 times.

Work out an estimate for the total number of times the dice will land on 1 or on 3

.....

(Total for Question 17 is 3 marks)

17 The table shows some information about the dress sizes of 25 women.

Dress size	Number of women
8	2
10	9
12	8
14	6

(a) Find the median dress size.

.....

(1)

3 of the 25 women have a shoe size of 7

Zoe says that if you choose at random one of the 25 women, the probability that she has either a shoe size of 7 or a dress size of 14 is $\frac{9}{25}$ because

$$\frac{3}{25} + \frac{6}{25} = \frac{9}{25}$$

(b) Is Zoe correct?
You must give a reason for your answer.

.....

.....

(1)

(Total for Question 17 is 2 marks)

12 Emma has 45 rabbits.

30 of the rabbits are male.
8 of the female rabbits have short hair.
12 of the rabbits with long hair are male.

(a) Use the information to complete the two-way table.

	Male	Female	Total
Long hair			
Short hair			
Total			

(3)

One of Emma's rabbits is chosen at random.

(b) Write down the probability that this rabbit is a female with short hair.

.....

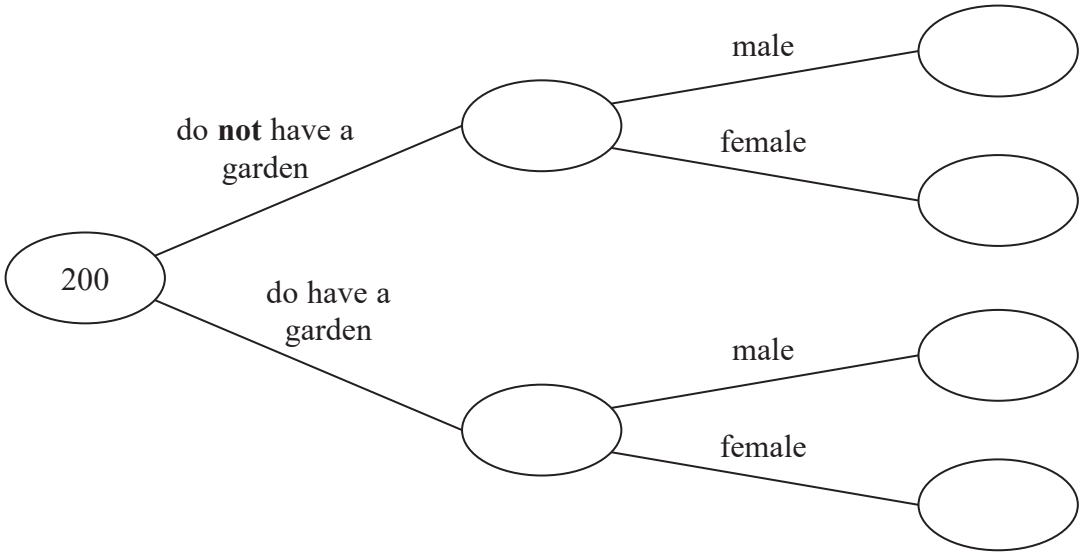
(1)

(Total for Question 12 is 4 marks)

12 200 people live in a village.

23 people do **not** have a garden.
10 males do **not** have a garden.
95 people are male.

(a) Use this information to complete the frequency tree.



(3)

One of the people who does **not** have a garden is chosen at random.

(b) Write down the probability that this person is female.

.....

(2)

(Total for Question 12 is 5 marks)

Question 72

19 There are only blue cubes, yellow cubes and green cubes in a bag.

There are

twice as many blue cubes as yellow cubes
and four times as many green cubes as blue cubes.

Hannah takes at random a cube from the bag.

Work out the probability that Hannah takes a yellow cube.

.....

(Total for Question 19 is 3 marks)

26 When a drawing pin is dropped it can land point down or point up.

Lucy, Mel and Tom each dropped the drawing pin a number of times.

The table shows the number of times the drawing pin landed point down and the number of times the drawing pin landed point up for each person.

	Lucy	**Mel**	**Tom**
point down	31	53	16
point up	14	27	9

Rachael is going to drop the drawing pin once.

(a) Whose results will give the best estimate for the probability that the drawing pin will land point up?
Give a reason for your answer.

.....

.....

(1)

Stuart is going to drop the drawing pin twice.

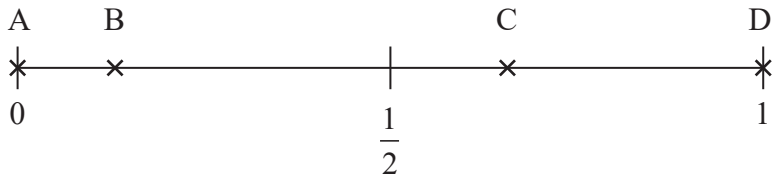
(b) Use all the results in the table to work out an estimate for the probability that the drawing pin will land point up the first time and point down the second time.

.....

(2)

(Total for Question 26 is 3 marks)

7 Here is a probability scale.
It shows the probability of each of the events A, B, C and D.



(a) Write down the letter of the event that is certain.

.....

(1)

(b) Write down the letter of the event that is unlikely.

.....

(1)

There are 12 counters in a bag.

3 of the counters are red.
1 of the counters is blue.
2 of the counters are yellow.
The rest of the counters are green.

Caitlin takes at random a counter from the bag.

(c) Show that the probability that this counter is yellow or green is $\frac{2}{3}$

(3)

(Total for Question 7 is 5 marks)

Question 75

13 A scout group has a raffle to raise money for charity.
There is 1 prize to be won in the raffle.

Laura buys 12 raffle tickets.
A total of 350 raffle tickets are sold.

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

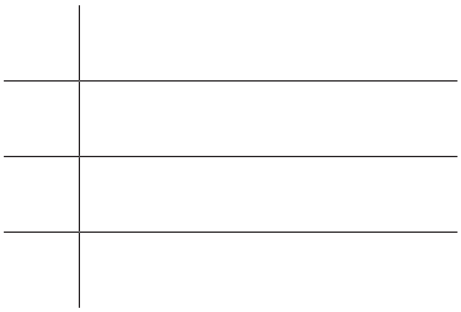
.....

(Total for Question 13 is 2 marks)

14 Here are the marks 20 students got in a French test.

76	82	84	69	80	64	70	81	75	91
87	67	80	70	94	76	81	69	71	77

(a) Show this information in a stem and leaf diagram.



(3)

One of these students is going to be chosen at random.

The pass mark in the French test is 71

Omar writes,

The probability that this student failed the French test is $\frac{1}{4}$

Omar is wrong.

(b) Explain why.

.....

.....

(2)

(Total for Question 14 is 5 marks)

24 There are some counters in a bag.
The counters are red or white or blue or yellow.

Bob is going to take at random a counter from the bag.

The table shows each of the probabilities that the counter will be blue or will be yellow.

Colour	red	white	blue	yellow
Probability			0.45	0.25

There are 18 blue counters in the bag.

The probability that the counter Bob takes will be red is twice the probability that the counter will be white.

(a) Work out the number of red counters in the bag.

.....

(4)

A marble is going to be taken at random from a box of marbles.
The probability that the marble will be silver is 0.5

There must be an even number of marbles in the box.

(b) Explain why.

.....

.....

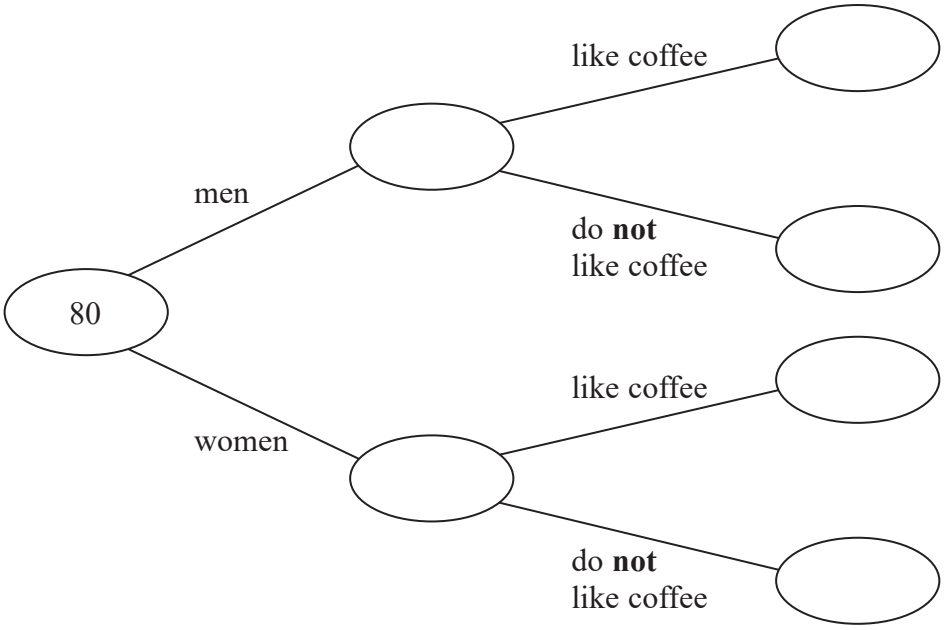
(1)

(Total for Question 24 is 5 marks)

17 80 people are asked if they like coffee.

48 of these people are women.
61 of the 80 people like coffee.
8 of the men do **not** like coffee.

(a) Use this information to complete the frequency tree.



(3)

One of the people who like coffee is chosen at random.

(b) Find the probability that this person is a woman.

.....

(2)

(Total for Question 17 is 5 marks)

Question 79

November 2018 | 1MA1/2F | Original Q12

12 There are 49 counters in a bag.

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

One of the counters is taken at random.

Find the probability that the counter is blue.

.....

(Total for Question 12 is 2 marks)

14 Victoria throws an ordinary fair 6-sided dice once.

She says,

"The probability of getting a 3 is half the probability of getting a 6"

(a) Is Victoria correct?
You must explain your answer.

.....

.....

(1)

Andy throws the dice twice.
He says,

"The probability of getting a 6 on both throws is $\frac{2}{6}$"

(b) Is Andy correct?
You must explain your answer.

.....

.....

(1)

Indre throws the dice once.
She also throws a coin to get Heads or Tails.

(c) List all the possible outcomes she can get.

.....

.....

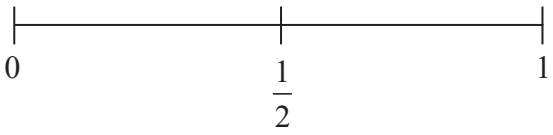
.....

(2)

(Total for Question 14 is 4 marks)

6 An ordinary fair dice is thrown once.

(a) On the probability scale below, mark with a cross (×) the probability that the dice lands on an odd number.



(1)

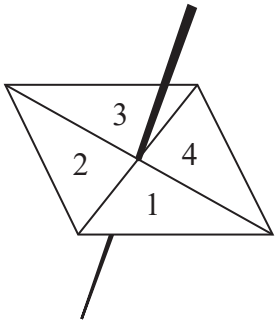
(b) Write down the probability that the dice lands on a number greater than 4

.....

(1)

(Total for Question 6 is 2 marks)

14 Here is a 4-sided spinner.



The table shows the probabilities that when the spinner is spun it will land on 1, on 3 and on 4

Number	1	2	3	4
Probability	0.2		0.4	0.1

The spinner is spun once.

(a) Work out the probability that the spinner will land on 2

.....

(1)

(b) Which number is the spinner least likely to land on?

.....

(1)

Jake is going to spin the spinner 60 times.

(c) Work out an estimate for the number of times the spinner will land on 1

.....

(2)

(Total for Question 14 is 4 marks)

17 Stuart throws a biased coin 10 times.
He gets 7 Tails.

Maxine throws the same coin 50 times.
She gets 30 Tails.

Prasha is going to throw the coin once.

(i) Whose results will give the better estimate for the probability that she will get Tails, Stuart's or Maxine's?
You must give a reason for your answer.

.....

.....

.....

(1)

(ii) Use Stuart's and Maxine's results to work out an estimate for the probability that Prasha will get Tails.

.....

(1)

(Total for Question 17 is 2 marks)

22 There are only blue cubes, red cubes and yellow cubes in a box.

The table shows the probability of taking at random a blue cube from the box.

Colour	blue	red	yellow
Probability	0.2		

The number of red cubes in the box is the same as the number of yellow cubes in the box.

(a) Complete the table.

(2)

There are 12 blue cubes in the box.

(b) Work out the total number of cubes in the box.

.....

(2)

(Total for Question 22 is 4 marks)

16 Four biased coins, A, B, C and D are thrown.

The probability that each coin will land on Heads is shown in the table.

Coin	Probability
A	0.33
B	0.033
C	$\frac{1}{3}$
D	30%

(a) (i) Which coin is least likely to land on Heads?

.....

(1)

(ii) Which coin is most likely to land on Heads?

.....

(1)

Julie says,

> "The probability that coin C will land on Heads is the same as the probability that coin C will land on Tails."

(b) Is she correct?
Give a reason for your answer.

.....

.....

.....

(1)

Coin B is going to be thrown 4000 times.

(c) Work out an estimate for the number of times coin B will land on Heads.

.....

(2)

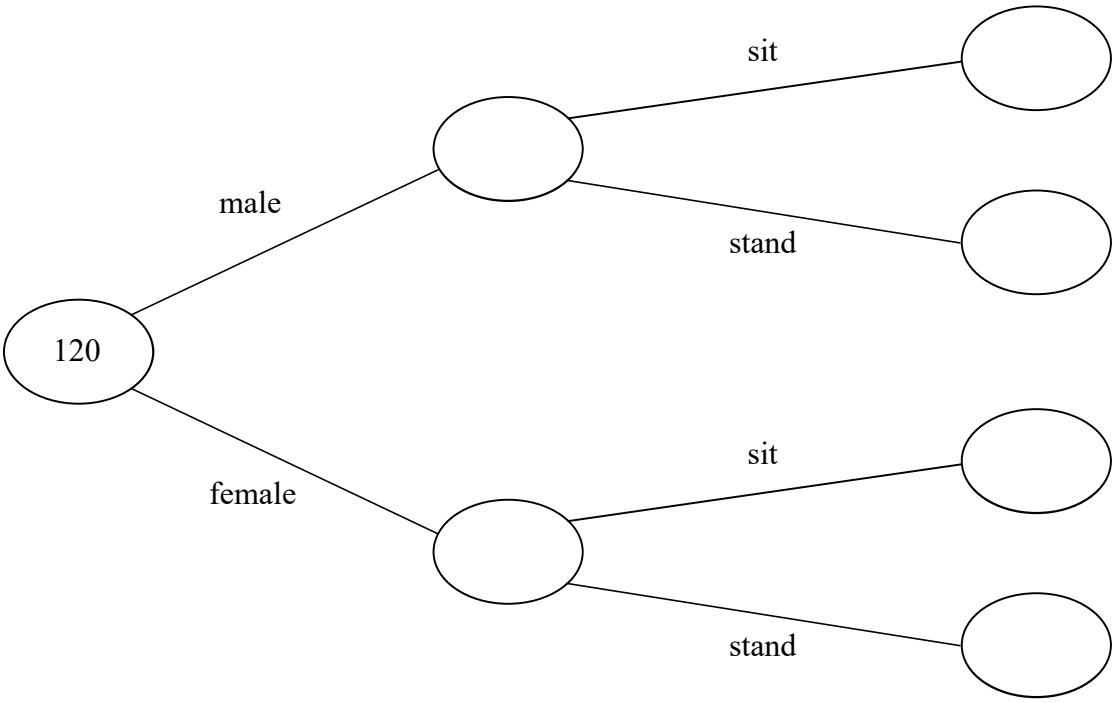
(Total for Question 16 is 5 marks)

15 120 people were at a hockey match.

Each person was asked if they wanted to stand or to sit to watch the match.

75 of the people were female
29 of the males wanted to stand
30 of the people wanted to sit

(a) Use this information to complete the frequency tree.



(3)

One of the 120 people is chosen at random.

(b) Write down the probability that this person is a male who wanted to stand.

.....

(1)

(Total for Question 15 is 4 marks)

9 Here is a list of numbers.

6 4 8 9 4 3

(a) Work out the median.

.....

(2)

Aisha picks at random one of the numbers.

(b) What is the probability that she picks an odd number?

.....

(2)

Clara has five cards.
There is a number on each card.
Two of the numbers are hidden.

3	?	8	5	?

The mode of the five numbers is 3
The mean of the five numbers is 5

(c) Work out the two numbers that are hidden.

..... , ...

(2)

(Total for Question 9 is 6 marks)

16 In a bag there are only red counters, blue counters, green counters and yellow counters.
A counter is taken at random from the bag.

The table shows the probabilities of getting a red counter or a yellow counter.

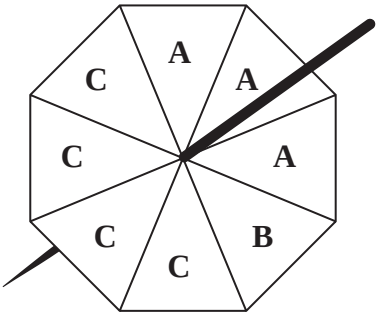
Colour	red	blue	green	yellow
Probability	0.4	.....	.....	0.25

the number of blue counters : the number of green counters = 3 : 4

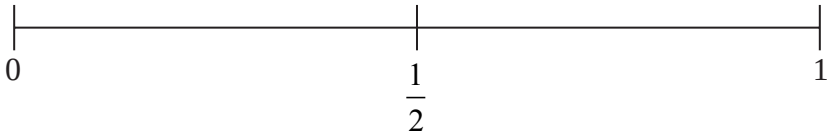
Complete the table.

(Total for Question 16 is 4 marks)

6 Gita spins a fair 8-sided spinner.

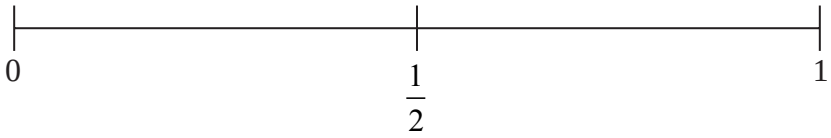


(a) On the probability scale, mark with a cross (×) the probability that the spinner will land on **C**.



(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)

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

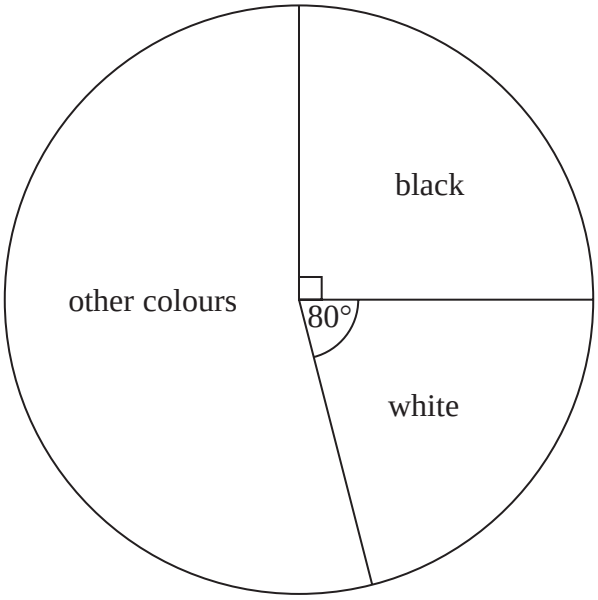
(b) What is the probability that the dice will **not** land on six?

.....

(1)

(Total for Question 16 is 3 marks)

16 The pie chart gives information about the colour of each car in a car park.



There are 135 black cars in the car park.

(a) Work out the number of white cars in the car park.

.....

(3)

There are 50 grey cars in the car park.

A car in the car park is picked at random.

(b) Find the probability that this car is grey.

.....

(2)

(Total for Question 16 is 5 marks)

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)

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.

.....

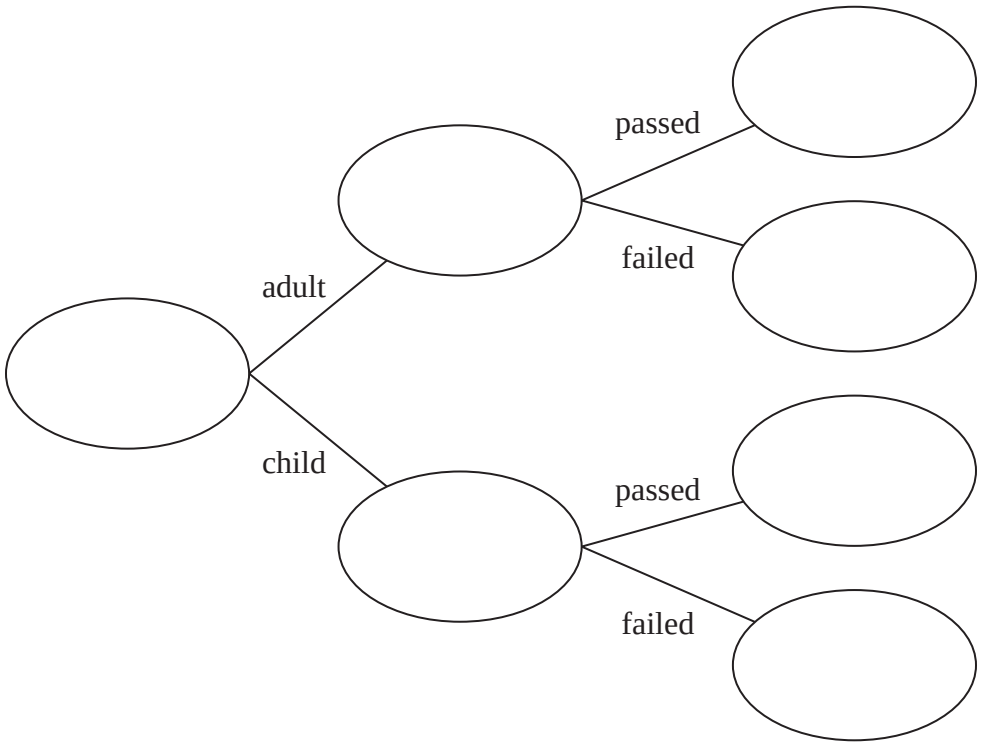
(1)

(Total for Question 13 is 2 marks)

17 72 people did a test.

20 of the 32 adults who did the test passed.
6 of the children who did the test failed.

(a) Use this information to complete the frequency tree.



(3)

One of these people is picked at random.

(b) Find the probability that this person is an adult who failed the test.

.....

(2)

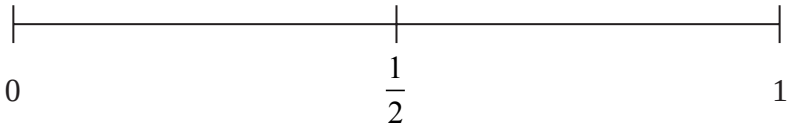
(Total for Question 17 is 5 marks)

10 Here is a list of 8 numbers.

2 2 3 5 6 6 8 9

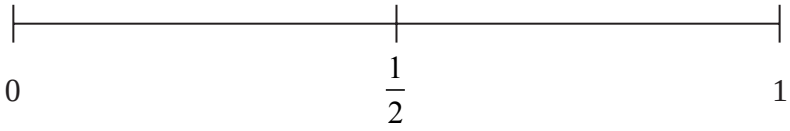
Kim picks at random one of these numbers.

(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)

7 Here is a list of 8 letters.

B C A A A A B A

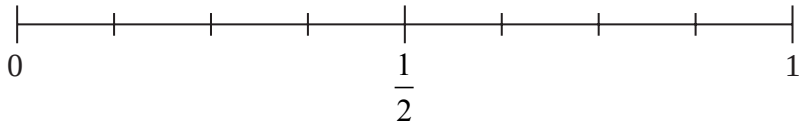
(a) Write down the mode.

.....

(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)

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)

The ratio of the number of blue counters to the number of green counters is 2 : 3

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

.....

(2)

Bradley says,

"The number of red counters in the bag is the same as the number of yellow counters in the bag."

(c) Can Bradley be correct?
Give a reason for your answer.

.....

.....

.....

(1)

(Total for Question 17 is 5 marks)

23 A car factory is going to make four different car models **A**, **B**, **C** and **D**.

80 people are asked which of the four models they would be most likely to buy.

The table shows information about the results.

Car model	Number of people
A	23
B	15
C	30
D	12

The factory is going to make 40 000 cars next year.

Work out how many model **B** cars the factory should make next year.

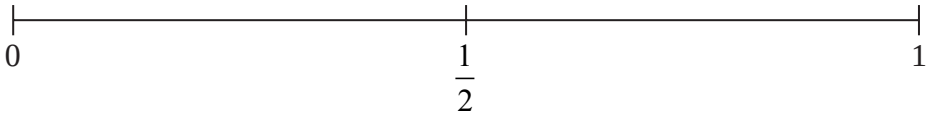
.....

(Total for Question 23 is 2 marks)

6 Shari has a fair ordinary dice.

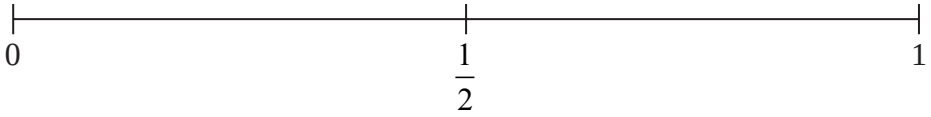
She rolls the dice once.

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



(1)

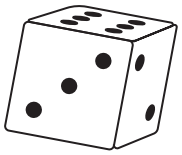
(b) On the probability scale, mark with a cross (×) the probability that Shari gets an even number.

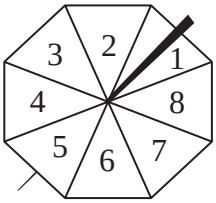


(1)

(Total for Question 6 is 2 marks)

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





Charlie throws the dice once and spins the spinner once.

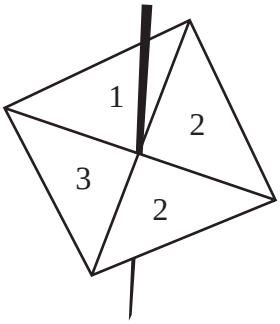
Is Charlie more likely to get

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)

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)

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)

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)

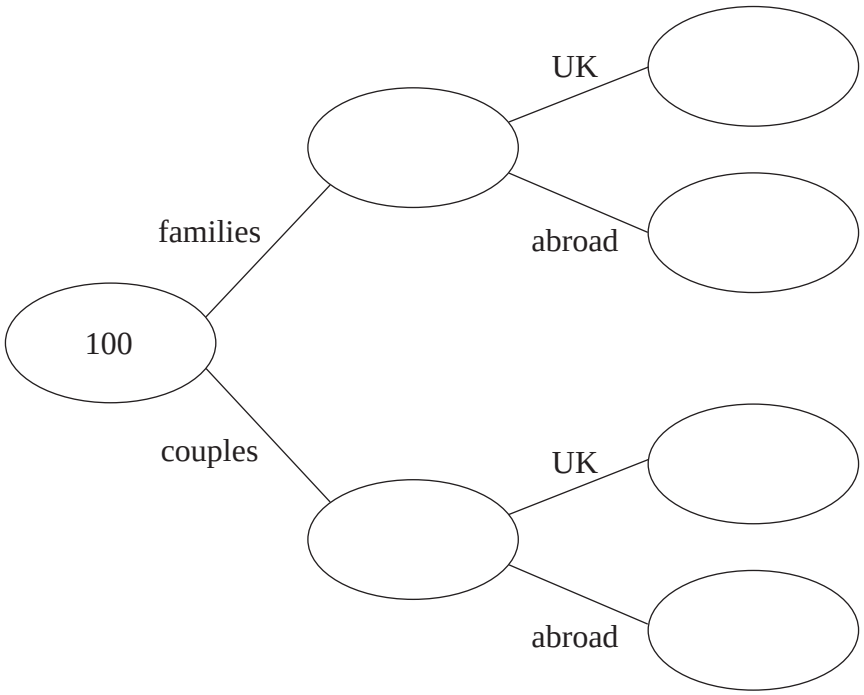
(Total for Question 11 is 2 marks)

15 A travel agent sold 100 holidays in April.
Each of these holidays was in the UK or was abroad.

64 of the 100 holidays were sold to families.
The rest of the holidays were sold to couples.

11 of the 18 holidays abroad were sold to couples.

(a) Use this information to complete the frequency tree.



(3)

One of the holidays sold to a family is chosen at random.

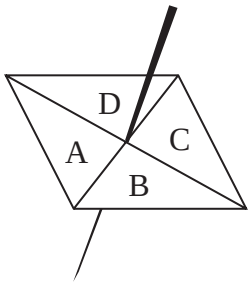
(b) Find the probability that this holiday was **not** abroad.

.....

(2)

(Total for Question 15 is 5 marks)

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)

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.

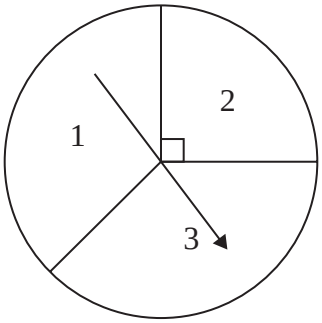
(b) Find the probability that Simon takes a 1p coin.

.....

(2)

(Total for Question 13 is 3 marks)

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)

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

the number of red discs : the number of blue discs = 5 : 4

Work out the number of red discs in the bag.

.....

(Total for Question 23 is 4 marks)

11 500 people were asked what type of film they liked best.

280 of the 500 people were adults.
100 of the adults said they liked action films best.
80 of the children said they liked thriller films best.

150 of the people said they liked action films best.
200 of the people said they liked comedy films best.

(a) Complete the two-way table.

	Comedy	Thriller	Action	Total
Adults				
Children				
Total				500

(3)

One of these 500 people is chosen at random.

(b) Find the probability that this person is an adult who said they liked action films best.

.....

(2)

(Total for Question 11 is 5 marks)

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)

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

14 10 10 13 15 9 15 10

(a) Work out the mean age.

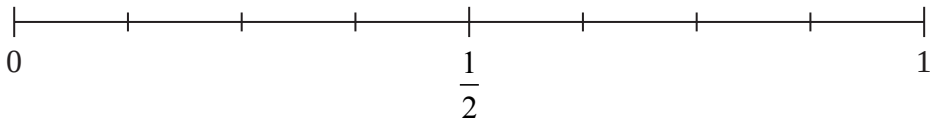
..... years
(2)

(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)

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)

20 There are only red counters, white counters, blue counters and green counters in a bag.

Chris is going to take at random a counter from the bag.

The table shows the probability that he will take a red counter and the probability that he will take a white counter.

Colour	red	white	blue	green
Probability	0.3	0.1		

There are twice as many blue counters as there are green counters in the bag.

(a) Work out the probability that Chris will take a blue counter.

.....

(3)

There are 45 red counters in the bag.

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

.....

(2)

(Total for Question 20 is 5 marks)

15 There are 20 buttons in a box.

There are

6 blue buttons
9 green buttons
5 red buttons.

Jai puts 12 more buttons in the box.
These buttons are either blue buttons or red buttons.

Jai is going to pick at random one button from the box.

The probability that this button will be blue is $\frac{1}{4}$

How many more red buttons did Jai put in the box?
You must show all your working.

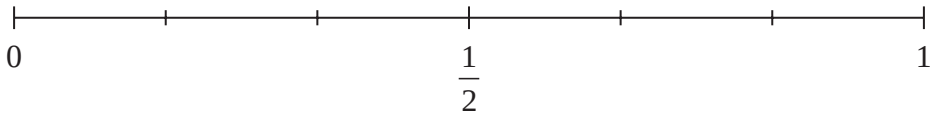
.....

(Total for Question 15 is 4 marks)

7 Tom has a fair ordinary dice.

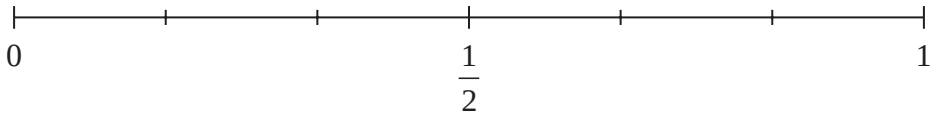
He rolls the dice once.

(a) On the probability scale below, mark with a cross (×) the probability that Tom gets the number 2



(1)

(b) On the probability scale below, mark with a cross (×) the probability that Tom gets a number greater than 4



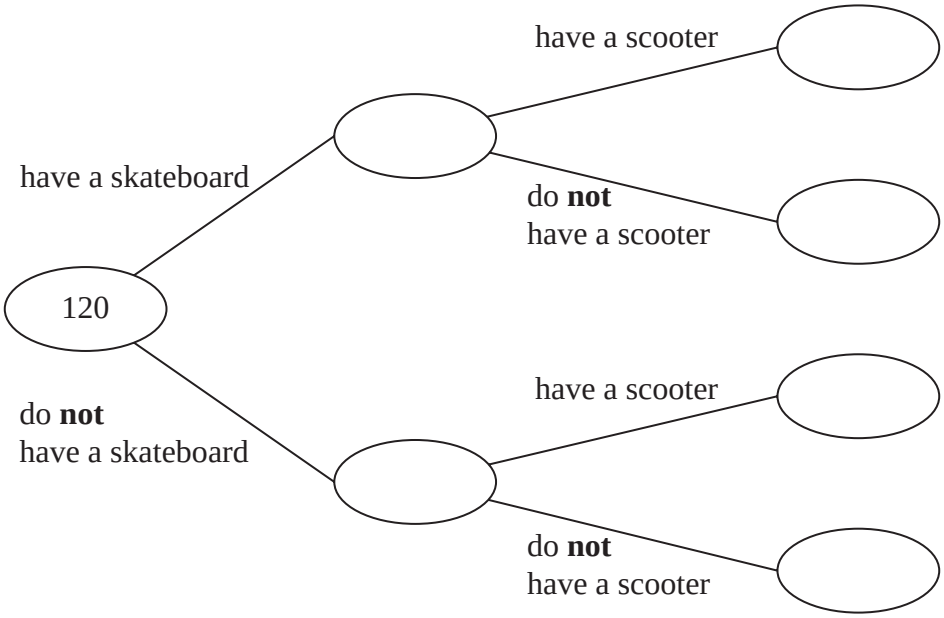
(1)

(Total for Question 7 is 2 marks)

17 120 students are asked if they have a skateboard or a scooter.

37 of the students have a skateboard.
21 of the students who have a skateboard also have a scooter.
65 of the students have a scooter.

(a) Use this information to complete the frequency tree.



(3)

One of the 120 students is chosen at random.

(b) Find the probability that this student does **not** have a skateboard.

.....

(1)

(Total for Question 17 is 4 marks)