

- 1 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.

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(2)

(Total for Question 1 is 4 marks)

- 2 There are only blue counters, yellow counters, green counters and red counters in a bag.
A counter is taken at random from the bag.

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

Colour	blue	yellow	green	red
Probability	0.2	0.35	0.4	

- (a) Work out the probability of getting a red counter.

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(1)

- (b) What is the least possible number of counters in the bag?
You must give a reason for your answer.

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(2)

(Total for Question 2 is 3 marks)

- 3 A tin contains tea bags with a choice of four different flavours of tea. The four flavours of tea are Assam or Darjeeling or Nilgiri or Rize.

Sara takes at random a tea bag from the tin.

The table shows each of the probabilities that the flavour of the tea Sara takes is Assam or Darjeeling or Rize.

Flavour of tea	Assam	Darjeeling	Nilgiri	Rize
Probability	0.38	0.24		0.16

- (a) Work out the probability that the flavour of the tea Sara takes is Nilgiri.

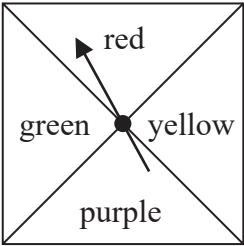
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(2)

- (b) Work out the probability that the flavour of the tea Sara takes is either Darjeeling or Rize.

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(2)

(Total for Question 3 is 4 marks)

4 Here is a biased spinner.



When the spinner is spun once, the probabilities that it lands on red or on yellow or on green are given in the table.

Colour	red	yellow	purple	green
Probability	0.25	0.2		0.2

(a) Work out the probability that the spinner lands on red or on yellow.

(1)

Yang is going to spin the spinner 300 times.

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

(3)

(Total for Question 4 is 4 marks)

- 5 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)

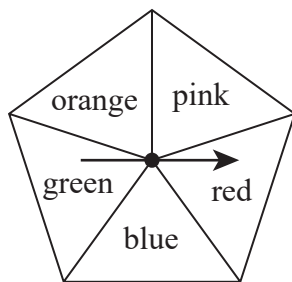
There are 18 blue counters in the bag.

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

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(2)

(Total for Question 5 is 4 marks)

6 Grace has a biased 5-sided spinner.



Grace is going to spin the arrow on the spinner once.

The table below gives the probabilities that the spinner will land on red or on blue or on green.

Colour	Red	Blue	Green	Orange	Pink
Probability	0.20	0.12	0.08		

The probability that the spinner will land on orange is 3 times the probability that the spinner will land on pink.

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

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(3)

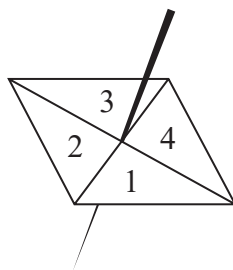
Grace spins the arrow on the spinner 150 times.

(b) Work out an estimate for the number of times the spinner lands on blue.

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(2)

(Total for Question 6 is 5 marks)

7 Here is a biased 4-sided spinner.



The table gives the probabilities that, when the spinner is spun once, it will land on 1 or it will land on 3

Number	1	2	3	4
Probability	0.26		0.18	

The probability that the spinner will land on 2 is equal to the probability that the spinner will land on 4

Ravina is going to spin the spinner a number of times.

Ravina works out that an estimate for the number of times the spinner will land on 3 is 45

Work out an estimate for the number of times the spinner will land on 4

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(Total for Question 7 is 4 marks)

8 Becky has a biased 6-sided dice.

The table gives information about the probability that, when the dice is thrown, it will land on each number.

Number	1	2	3	4	5	6
Probability	$2x$	0.18	$2x$	$3x$	0.26	x

Becky is going to throw the dice 200 times.

Work out an estimate for the number of times that the dice will land on an even number.

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(Total for Question 8 is 4 marks)

- 9 A bag contains only red beads, blue beads, green beads and yellow beads.

The table gives the probabilities that, when a bead is taken at random from the bag, the bead will be blue or the bead will be yellow.

Colour	red	blue	green	yellow
Probability		0.24		0.31

The probability that the bead will be green is twice the probability that the bead will be red.

Sofia takes at random a bead from the bag.

She writes down the colour of the bead and puts the bead back into the bag.

She does this 180 times.

Work out an estimate for the number of times she takes a red bead from the bag.

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(Total for Question 9 is 4 marks)

10 A bag contains only pink sweets, white sweets, green sweets and red sweets.

The table gives each of the probabilities that, when a sweet is taken at random from the bag, the sweet will be green or the sweet will be red.

Sweet	pink	white	green	red
Probability			0.2	0.35

The ratio

number of pink sweets : number of white sweets = 2 : 1

There are 28 red sweets in the bag.

Work out the number of white sweets in the bag.

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(Total for Question 10 is 5 marks)