

## Probability & Relative Frequency Questions

Q1.

An electronic game can show red or blue or green or yellow.

The table shows the probabilities that the colour shown will be red or will be green or will be yellow.

Colour	red	blue	green	yellow
Probability	0.15	0.20	0.41	0.24

Arthur plays the game.

(a) Work out the probability that the colour shown will be blue.

0.20

(2)

Janice is going to play the game 50 times.

(b) Work out an estimate for the number of times the colour shown will be yellow.

$$50 \times 0.24 = 12$$

12

(2)

Q2.

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	0.20	0.40	0.25	0.15

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

0.20

(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.

$$60 \times 0.4 = 24$$

24

(2)

(Total for Question is 4 marks)

**Q3.**

There are only red counters, yellow counters, blue counters and green counters in a bag. Olu takes at random a counter from the bag.

The table shows each of the probabilities.

Colour	Red	Yellow	Blue	Green
Probability	0.6	0.25	$2x$	$x$

The probability that Olu will take a blue counter is twice the probability that he will take a green counter.

(a) Work out the value of  $x$ .

$$3x = 0.15$$

$$x = 0.05$$

$x = 0.05$

(3)

Olu takes a counter from the bag.  
He writes down the colour of the counter.  
He puts the counter back in the bag.

Olu does this 50 times.

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

$$50 \times 0.6 = 30$$

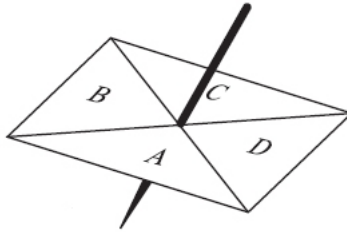
30

(2)

**Q4.**

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	0.26

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

0.26

(2)

Sandy spins the spinner 300 times.

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

$300 \times 0.15 = 45$

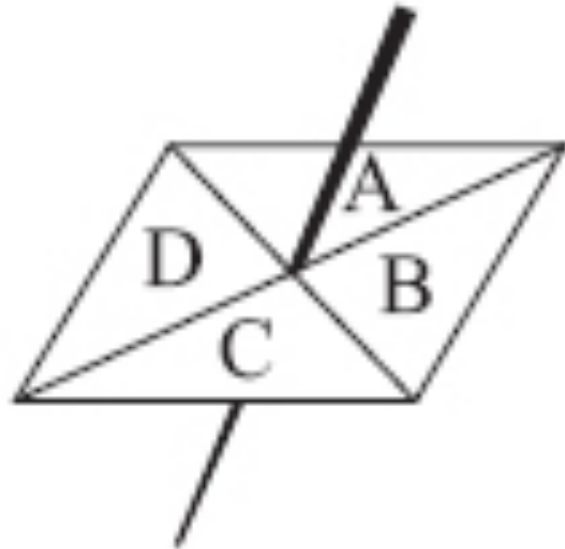
(2)

(Total for Question is 4 marks)

Q5.

Here is a four-sided spinner.

The sides of the spinner are labelled A, B, C and D.



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

Letter	A	B	C	D
Probability	0.12	0.39	0.31	0.18

Amber spins the spinner once.

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

0.31

(2)

Lucy is going to spin the spinner 50 times.

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

$$50 \times 0.12 = 6$$

6

(2)

(Total for Question is 4 marks)