PROBABILITY – past paper questions (F Tier)

Questions

Q1.

A box contains four different kinds of chocolates. Debbie takes at random a chocolate from the box.
The table shows the probability of Debbie taking an Orange or a Coffee or a Caramel chocolate.

Chocolate	Probability
Orange	0.15
Coffee	0.40
Caramel	0.35
Strawberry	

(a) Work out the probability that Debbie takes a Strawberry chocolate.

.... **(2)**

(b) Work out the probability that Debbie takes an Orange chocolate or a Coffee chocolate.

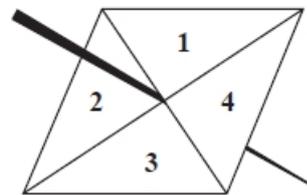... **(2)**

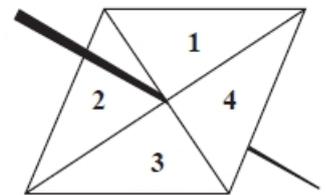**(Total for question = 4 marks)**

Q2.

Here are two fair spinners.

Shola spins each spinner once.

The score is the sum of the number spinner **A** lands on and the number spinner **B** lands on.

Spinner A   Spinner B

(a) Complete the table to show the possible scores.

(2)

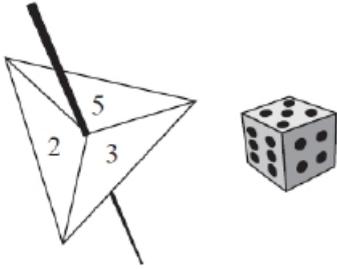(b) Find the probability that the score will be 3 or less.

.... **(2)**

Spinner B / Spinner A	1	2	3	4
1				
2				6
3		5		
4			7	

(c) Find the probability that the number spinner **A** lands on will be greater than the number spinner **B** lands on.

.... **(2)**

(Total for question = 6 marks)

Q3.

Paul has a fair 3-sided spinner and a fair 6-sided dice.

The spinner can land on 2, 3 or 5.

Paul spins the spinner once and throws the dice once.

(a) Complete the table to show all the possible outcomes.

Four outcomes have been done for you.

Dice

		1	2	3	4	5	6
	2	2,1					2,6
Spinner	**3**			3,3	3,4		
	5						

(2)

Paul spins the spinner once and throws the dice once.

(b) Find the probability that the number the spinner lands on is greater than the number shown on the dice.
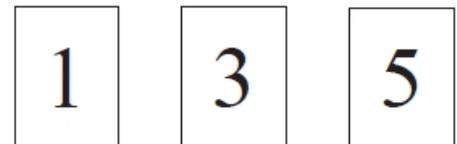
.... (2)

(Total for question = 4 marks)

Q4.

Three rectangular cards are numbered 1, 3 and 5

Sanjay takes at random one of these cards.

(a)   Find the probability that the number on the card he takes is

(i)   5

....

(ii)   an even number.

.... (2)

Three circular cards are numbered 2, 3 and 4

Shondra takes at random one of these circular cards.

(b)   Find the probability that the number on the card she takes is an even number.

.... (1)

Amrit has all six cards.
She takes at random one rectangular card and one circular card.
She adds together the numbers on the two cards to find the total for these two cards.

(c) Complete the table to show all possible totals.

Three totals have been done for you.

		Number on rectangular card		
		1	**3**	**5**
Number on circular card	**2**	3		
	3			8
	4	5		

(2)

(d) Work out the probability that the total is

   (i) 8

   ....

   (ii) 5 or 7

   .... (2)

(Total for question = 7 marks)

Q5.

There are 20 counters in a bag.
3 of the counters are red.
8 of the counters are blue.
The rest of the counters are yellow.

Zakir takes at random a counter from the bag.

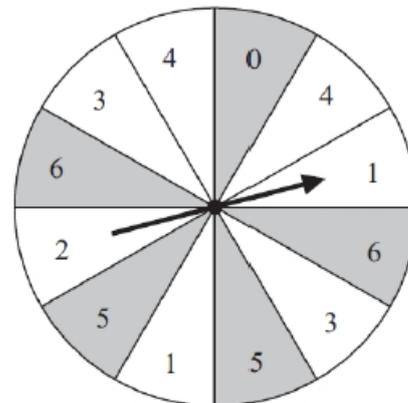Work out the probability that Zakir takes a yellow counter.

....

(Total for Question is 2 marks)

Q6.

The diagram shows a pointer that spins about the centre of a circle.

The circle is divided into 12 equal sectors.
When the pointer spins, it is equally likely to stop in any one of the sectors.
Each sector has a number.

Andrea spins the pointer.

(a) Find the probability that the pointer stops in a shaded sector.

.... (1)

(b) Find the probability that the pointer stops in an unshaded sector with an odd number.

.... (1)

Andrea now spins the pointer twice and adds together the two numbers in the sectors that the pointer stops in.
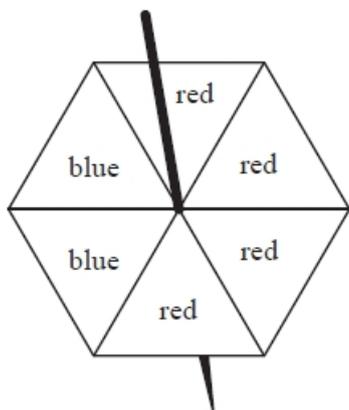
The probability that the total of the two numbers is 7 or more is $\dfrac{19}{36}$

(c) Work out the probability that the total of the two numbers is less than 7.

.... (2)

(Total for question = 4 marks)

Q7.

The diagram shows a fair 6-sided spinner.

Shaun spins the spinner once.

(a) Write down the probability that the spinner lands on green.

.... (1)

(b) Find the probability that the spinner lands on red.

.... (1)

Karen has a different spinner.

When the spinner is spun once, the probability that it will land on yellow is $\dfrac{2}{5}$
Karen spins the spinner 30 times.

(c) Work out an estimate for the number of times the spinner lands on yellow.

.... (2)

(Total for question = 4 marks)

Q8.

A jar contains 72 coloured beads.
There are 24 red beads, 28 blue beads and 20 green beads.

Ajit takes at random a bead from the jar.

(a)   Find the probability that the bead Ajit takes is

    (i) red,

....

    (ii) blue or green.

.... **(3)**

A second jar contains coloured beads.
Ajit takes at random a bead from the jar.
The probability that the bead is yellow is 0.08   The probability that the bead is pink is 0.1

(b)   Find the probability that the bead is neither yellow nor pink.

.... **(2)**

A third jar contains 100 coloured beads.
20 of these beads are brown.

Ajit takes at random a bead from the jar.
He records the colour of the bead and then returns the bead to the jar.   He does this 60 times.

(c)   Work out an estimate for the number of times Ajit records a brown bead.

.... **(2)**

(Total for question = 7 marks)

Q9.

There are 15 toy bricks in a bag.

There are

      7 red bricks
      3 green bricks
      5 yellow bricks

Cristiano takes at random a brick from the bag.
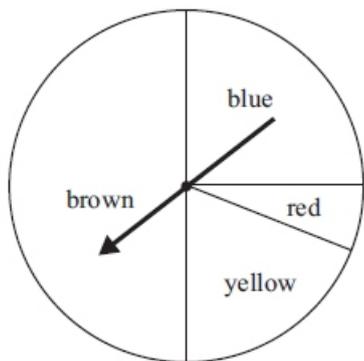Write down the probability that Cristiano

(i) takes a red brick,

.... **(1)**

(ii) takes a blue brick,

.... **(1)**

(iii) does **not** take a green brick.

.... **(1)**

(Total for question = 3 marks)

Q10.

The diagram shows a pointer which spins about the centre of a circle.

When the pointer is spun, it stops on one of the colours.
The colours are brown, yellow, red and blue.
Michael spins the pointer once.
(a)

| Certain | Likely | Unlikely | Impossible |

Write down a word from the box that best describes each outcome.
(i) The pointer stops on green.

....

(ii) The pointer stops on red.

....

(iii) The pointer stops on a colour beginning with the letter b.

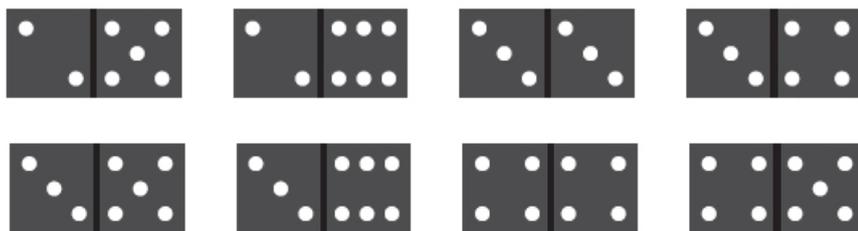...

(3)

(Total for question = 3 marks)

Q11.

Here are 8 dominoes.

The 8 dominoes are put in a bag.
Helima takes at random a domino from the bag.

(a) Find the probability that she takes a domino with a total of

(i) more than 5 spots,

....

(ii) 6 spots,

....

(iii) 7 spots,

....

(4)

Riaz takes at random a domino from the bag of 8 dominoes.

(b) Find the probability that he takes a domino with a total of 8 spots or a domino with a total of 9 spots.

....

(2)

(Total for question is 6 marks)