Maths
Junior Certificate
Ordinary Level

Past Exam Questions on
PM Probability

Q3 2013 Paper 2

Question 3 **(suggested maximum time: 10 minutes)**

A hurling match is played between Team A and Team B.
A player on Team A, Fiachra, has the ball and attempts to score.
The probability of Fiachra scoring a point is 0·6 and the probability of him scoring a goal is 0·1.

(a) Is Fiachra more likely to score a point or a goal?

(b) What is the probability that Fiachra will not score a point in this attempt?

A player on Team B, Peadar, has the ball and attempts to score. The probability of Peadar scoring a point is 0·7 and the probability of him scoring a goal is 0·2.

(c) Peadar is more likely to score than Fiachra.
Give a reason why this is true.

(d) A spectator says "Peadar will always score more than Fiachra in a game between the two teams".

Do you agree with the spectator?

Yes ☐ No ☐

Give a reason for your answer.

(e) A penalty is awarded to Team B.
The goalkeeper for Team A has saved 12 penalties out of 20 this season.

What is the probability that the goalkeeper will save the penalty based on his previous record?

Q6 2012 Paper 2 Sample Paper

Question 6 **(Suggested maximum time: 10 minutes)**

A bag contains red disks, blue disks and white disks. In an experiment, each student in a class of 24 takes out a disk, records the colour and replaces it. This is repeated ten times.
The results from the class are recorded in the table below.

Colour	Red	Blue	White	Total
Frequency	123	78	39	
Relative frequency $\frac{\text{Frequency}}{\text{Total}}$				
% of total (Relative frequency $\times 100$)				

(a) In your opinion, why is the number for red greater than for blue or white?

(b) Complete the table above.

(c) Use the results from the table above to estimate the probability of getting each colour when a disk is taken from the bag.

Colour	Red	Blue	White
Probability			

(d) Anne says that she thinks there are ten discs in the bag. Is this a reasonable suggestion? Explain your answer.

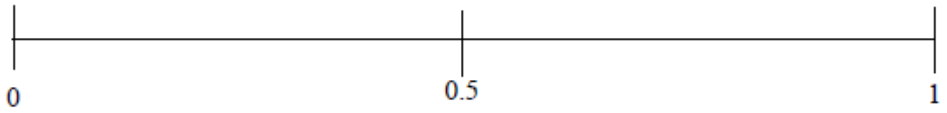
(e) Based on the information in the table, how many disks of each colour do you think are in the bag?

Q7 2012 Paper 2 Sample Paper

Question 7 **(Suggested maximum time: 10 minutes)**

(a) For each of the events A, B, C, D and E below, estimate its probability and place the letter at the most appropriate position on the probability scale below.

	Probability
A name is picked at random from a list of 50 girls and 50 boys. **A** = A girl's name is picked.	
A fair coin is tossed twice. **B** = A head is the outcome on each toss.	
One card is drawn at random from a pack of playing cards. **C** = The card is a diamond.	
A day is chosen at random from a list of the days of the week. **D** = The name of the day contains the letter **a**.	
One number is picked at random from the set {1, 2, 3, 4, 5, 7, 11, 13}. **E** = The number chosen is a prime number.	



(b) Write down another event that you think has a probability similar to that of **C** in the scale above.

(c) Write down another event that you think has a probability similar to that of **D** in the scale above.

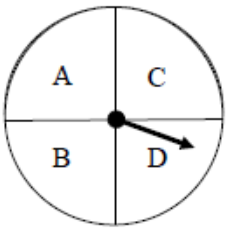
(d) In a multiple choice quiz, three possible answers are given to a question. James does not know the answer and guesses which one is correct. Put an X on the scale above to show the probability that he has chosen the correct answer.

Q8 2012 Paper 2

Question 8 **(suggested maximum time: 5 minutes)**

Jack rolls a fair die and spins a fair spinner as shown.

Die



Spinner

(a) Complete the table below showing all possible outcomes.

		Spinner			
		A	**B**	**C**	**D**
Die	**1**	(1,A)			
	2				
	3				
	4				
	5				
	6				(6,D)

(b) How many possible outcomes are there?

(c) How many outcomes consist of an odd number and B?

(d) What is the probability that an outcome will contain an even number?

Q4 2012 Paper 2

Question 4 **(suggested maximum time: 2 minutes)**

(a) Let A be the set of months of the year. List the elements of A.

(b) What is the probability that a month chosen at random from set A begins with the letter J?

$$P(J) = \frac{\quad}{\quad}$$