



Provincial Department of Education, Sabaragamuwa – Week School

Week:- 11th Week- 3rd -9th Jan, 2021

Subject: Mathematics

Grade-10

**Translated by: P.R.B.Bandara
Kg/Dehiowita National College**

Consider rolling an unbiased die numbered from 1 to 6. In this random experiment,

$S = \{1, 2, 3, 4, 5, 6\}$ **Sample space**

$A = \{1, 3, 5\}$ **An event**

$B = \{6\}$ **A simple event** (consisting of only one outcome)

$C = \{4, 5, 6\}$ **A composite event** (not a simple event)

The outcomes in a random experiment has an equal likelihood of occurring, that experiment is called an experiment with **equally likely outcomes**.

In an instance where all the outcomes of a sample space are equally likely to occur, the probability of an event

$$\text{Probability of the event occurring} = \frac{\text{Number of elements in the event}}{\text{Number of elements in the sample space}}$$

$$P(A) = \frac{n(A)}{n(S)}$$

In an experiment of rolling an unbiased die with its faces marked 1, 2, 3 and 4,

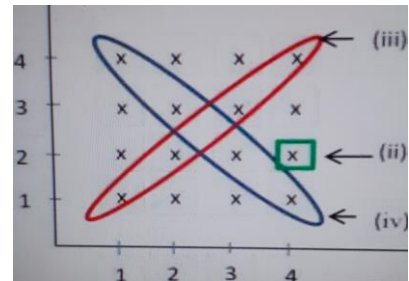
- Write the sample space and find $n(S)$.
 $S = \{1, 2, 3, 4\}$ $n(S) = 4$
- If the event of getting even number is A, write the element and find $n(A)$.
 $A = \{2, 4\}$ $n(A) = 2$
- Find $P(A)$.

$$P(A) = \frac{2}{4} = \frac{1}{2}$$

A bag contains 4 identical balls. These are numbered 1, 2, 3, 4. A ball is taken randomly, its number recorded and then put back in the bag. A ball is taken randomly from the bag again and its number recorded.

- i. Show the relevant sample space in a grid

First take



Second take

- ii) Find the probability that the first ball is numbered 4 and the second ball is numbered 2.
 $= \frac{1}{16}$

- iii) Find the probability that the same ball is taken on both occasions.
 $= \frac{4}{16} = \frac{1}{4}$

- iv) Find the probability that the sum of the numbers on the two balls is 5.
 $= \frac{4}{16} = \frac{1}{4}$

Do the exercises 30.2 and 30.3

1. In a random experiment of tossing an unbiased coin
 - i. Write sample space.
 - ii. Find the probability of getting head.
2. Write down sample space of the random experiment of rolling a unbiased die numbered from 1 to 6.
 - iii. Find the probability of getting odd number.
 - iv. Find the probability of getting 4.
 - v. Find the probability of getting odd number or 4.
3. A bag contains 4 beads. There are 3 yellow beads and a red bead. When a bead is taken randomly,
 - i. Write sample space.
 - ii. Find the probability of getting a yellow bead.
 - iii. Find the probability of getting a red bead.

Do the exercise 30.1

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$$P(A') = 1 - P(A)$$