Probability theory describes ………………. of occurrence of a particular outcome by using certain formal concepts.

Probability theory makes the use of ……………………………and probability distributions to assess uncertain situations mathematically.

*Probability can be defined as the number of …………….. outcomes divided by the ……………. …………… of possible outcomes of an event.*

There are two main approaches available to study probability theory. These are ……………… probability and ……………….. probability.

A random experiment, in probability theory, can be defined as a trial that is repeated …………. ……………….. in order to get a well-defined set of possible outcomes.

[Sample space](https://www.cuemath.com/data/sample-space/) can be defined as the set of all ……………….. ………………… that result from conducting a random experiment. For example, the sample space of tossing a fair coin is {heads, tails}.

The types of events are given as follows:

1)

2)

3)

4)

5)

There are two types of random variables:

The probability of an event taking place will always lie between …. …….. ….

P(A | B). This represents the ………………………. probability of event A given that event B has already occurred.

E[X]. It is also known as ………………… of the random variable.

Variance can be denoted as ……………..

* Addition Rule: ……………………………………………… where A and B are events.
* Complementary Rule: ……………………………
* Independent events: ……………………………
* Conditional probability: ……………………………………..