Sample Spaces

- A complete list of all possible outcomes of a random experiment is called sample space or possibility space and is denoted by S.
- A sample space is a set or collection of outcome of a particular random experiment.
- For example, imagine a dart board. You are trying to find the probability of getting a bullseye. The dart board is the sample space. The probability of a dart hitting the dart board is 1.0.
- For another example, imagine rolling a six sided die. The sample space is 1, 2, 3, 4, 5, 6.

Sample Spaces

- The following list consists of sample spaces of examples of random experiments and their respective outcomes.
- The tossing of a coin, sample space is Heads, Tails
- The roll of a die, sample space is 1, 2, 3, 4, 5, 6
- The selection of a numbered ball (1-50) in an urn, sample space is $\{1, 2, 3, 4, 5, ..., 50\}$

Sample Spaces

- Percentage of calls dropped due to errors over a particular time period, sample space is $\{2\%, 14\%, 23\%, ...\}$
- The time difference between two messages arriving at a message centre, sample space is 0, ..., infinity
- The time difference between two different voice calls over a particular network, sample space is 0, ..., infinity