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## Simple Probability

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# Simple Probability

Probability \_\_\_\_\_ - the chance that some event will happen

Sample space \_\_\_\_\_ - the set of all possible outcomes

$$\text{Probability} = \frac{\# \text{ of successful outcomes}}{\text{sample space}}$$

Examples: What is the probability of:

- A. Flipping a coin and getting heads?  $\frac{1}{2} = 50\%$
- B. Rolling a number cube and getting a prime number?  $\frac{3}{6} = \frac{1}{2} = 50\%$   
1 2 3 4 5 6
- C. Rolling a number cube and getting a composite number?  $\frac{2}{6} = \frac{1}{3} \approx 33.3\%$   
1 2 3 4 5 6

Theoretical Probability \_\_\_\_\_ - is based on knowing the numbers of equally likely outcomes of an experiment.

Experimental Probability \_\_\_\_\_ - is based on repetitions of an actual experiment and is calculated by the following rule.

$$\frac{\# \text{ of favorable outcomes}}{\text{Total \# of trials}}$$

Surveys \_\_\_\_\_ - are types of experiments