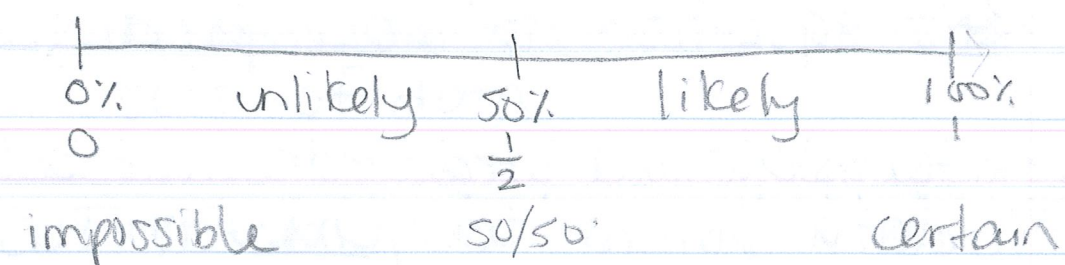


Probability

the likelihood an event will occur



- experiment - activity involving chance in which results are observed
- trial - each observation of an experiment
- outcome - each result of an experiment
- sample space - the set of all possible outcomes for an event

$$P(\text{event}) = \frac{\text{number of times an event occurs}}{\text{total number of equal outcomes}}$$

- complement - the set of all outcomes in the sample space that are not included in the event

$$P(\text{event}) + P(\text{complement}) = 1$$

- experimental probability - the number of times an event occurs to the total number of trials

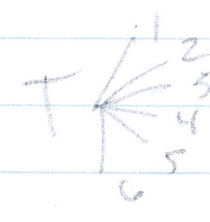
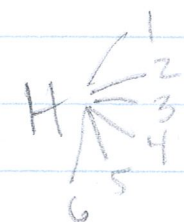
- simple event - one outcome of an event
- compound event - event that includes two or more simple events
- simulation - a model of an experiment that would be difficult or inconvenient to actually perform

To make a prediction using experimental probabilities, use a proportion. If given a percent, multiply by the percent as a decimal.

- theoretical probability - the number of times an event occurs to the total number of outcomes

Tree Diagram - connect all possible outcomes of an event to the previous event

Ex: Flipping a coin and rolling a die



$$2 \cdot 6 = 12 \text{ outcomes}$$