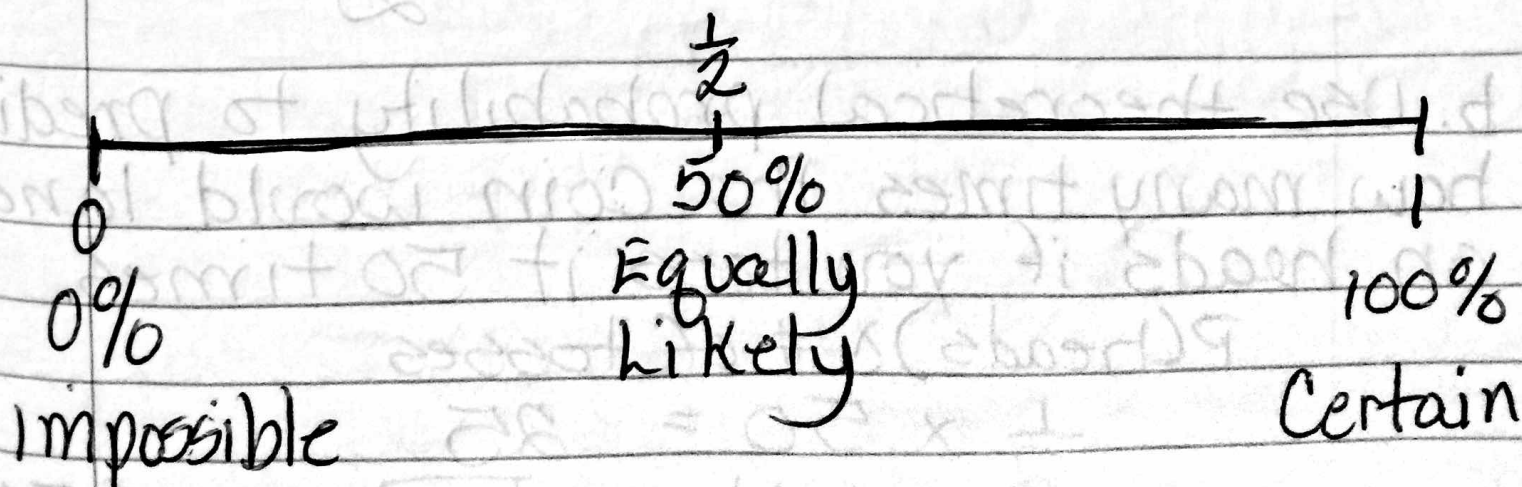


Probability

- * Predicts the likelihood of events
- * Always a number from 0 (0%) to 1 (100%)
- * 0 means the event is impossible (rolling a 7 on a number cube)
- * 1 means the event is certain, or has happened (rolling a number less than 10 on a number cube)
- * Probability of all outcomes in the sample space add up to 1.



Probability of an event

$$P(\text{event}) = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$$

Theoretical Probability

$$\frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$$

Example

Record in Composition NB!

Probability Examples = $\frac{\text{FAV}}{\text{Possible}}$

Roll a 6 sided number cube

1. $P(6) = \frac{1}{6}$
2. $P(4 \text{ or } 5) = \frac{2}{6} = \frac{1}{3}$
3. $P(\text{odd}) = \frac{3}{6} = \frac{1}{2}$
4. $P(\text{even}) = \frac{3}{6} = \frac{1}{2}$
5. $P(\text{Prime}) = \frac{3}{6} = \frac{1}{2}$
6. $P(\text{Composite}) = \frac{2}{6} = \frac{1}{3}$
7. $P(\text{Not } 6) = \frac{5}{6}$

Toss a coin

1. $P(\text{Head}) = \frac{1}{2}$
2. $P(\text{tail}) = \frac{1}{2}$

Textbook examples p. 769-772
a-e + Guided Practice 1-5.