NAME: Key **AMDM 2.1** DATE: ____/____/____

What: **PROBABILITY OF SIMPLE EVENTS**
Why: **To calculate the probability of simple events and to analyze the difference between theoretical probability and experimental probability.**

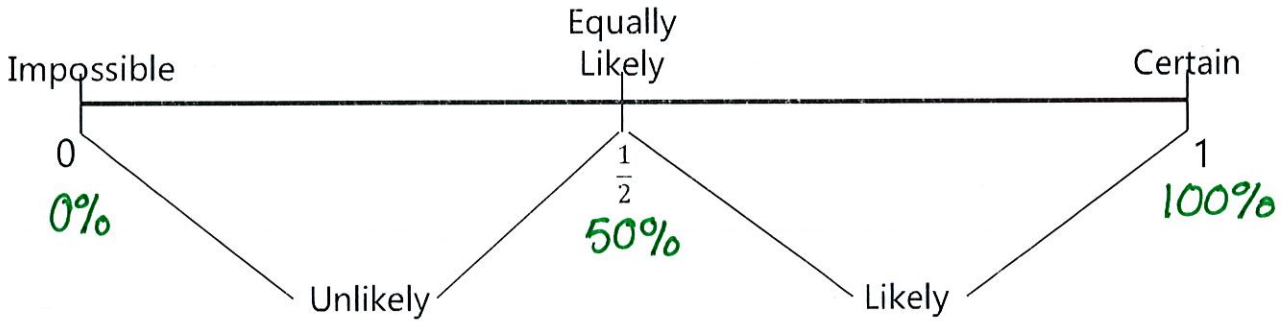
VOCABULARY:

Probability– expressed as a ratio describing the # of favorable outcomes to the # of total outcomes. Probability is measured on a scale from 0 – 1. The likelihood of an event occuring

Theoretical Probability– the probability, based on math, that an event will occur (what *should* happen).

Experimental Probability– found using outcomes obtained in an actual experiment or game (what *actually* happens).

What *SHOULD happen v. What ACTUALLY happens!*



Where would the following fall on the above Number Line???

1) Food will be served for lunch.
2) The sun will rise tomorrow.
3) You will have 2 birthdays this year.
4) You will see a cat this evening.
5) You will roll a "2" on a standard number cube.
6) On your way to school, you will see a live woolly mammoth.
7) You will see a wild, living black bear tomorrow.
8) You will get tails when you flip a coin.
9) You will become famous one day.

PROBABILITY TRIALS

TRIAL #1: Spinning a Spinner
Out of 20 trials, how many times will it land on red? P(red)

1) **What do we need to know?**

# of red: 1 **total # of colors:** 5

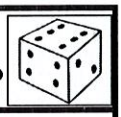
2) **Theoretical Probability:**
(what *should* happen)

1/5 20%

3) **Do the experiment (20 trials):**

4) **Experimental Probability:**
(what *actually* happened)

TRIAL #2 : Rolling a Number Cube
Out of 20 trials, how many times will an *odd number* occur– P (odd #)?



1) **What do we need to know?**

# of odd #'s: 3 **total # of sides:** 6

2) **Theoretical Probability:**
(what *should* happen)

3/6 or 1/2 $\frac{10}{20}$ rolls or 50%

3) **Do the experiment (20 trials):**

4) **Experimental Probability:**
(what *actually* happened)

TRIAL #3 : Flipping a Coin
Out of 20 trials, how many times will *heads* occur– P(heads)?

1) **What do we need to know?**

# of heads: 1 **total # of sides:** 2

2) **Theoretical Probability:**
(what *should* happen)

1/2 $\frac{10}{20}$ flips or 50%

3) **Do the experiment (20 trials):**

4) **Experimental Probability:**
(what *actually* happened)

NOTE: AS THE # OF TRIALS INCREASE, THE EXPERIMENTAL PROBABILITY WILL COME CLOSER AND CLOSER TO THE THEORETICAL PROBABILITY!!