
00 : 00 : 00

Unit 1: Probability

Friday 1/27/17 1.1 Basic Probability

Warmup **ONLY WRITE WORK AND ANSWER**

1. When flipping a coin, what are the odds of the coin landing on heads? Tails?

2. When rolling a die what are the odds of rolling a 3? Write the answer as a percent.

3. Given a deck of cards, what are the odds of drawing a red card? A spade? A face card?

Vocabulary

Random: Does not have a pattern

Success: Desired result of an experiment

Trial: Process of getting a result

Emperical Probability: $\frac{\text{number of successes}}{\text{number of trials}}$

Examples:

Dog	Collie	Spaniel	Lab
#	10	15	35

Theoretical Probability: Probability based on what can occur

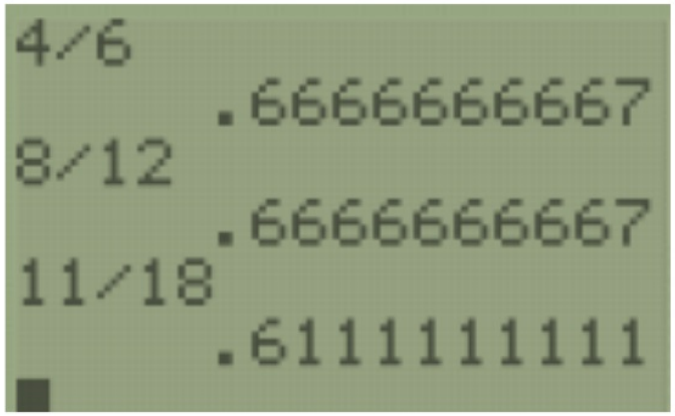
Examples: What are the odds of rolling a 1 on a fair die?

Coin Toss Activity

On separate sheet of paper to be graded

Use the total number of heads and tails from the coin toss activity to determine the outcome of the trials. Was the outcome a success? Why or why not?

Example:



Law of Large Numbers:

The more trials you have, the closer you will get to the Theoretical Probability.

Sample Space: set of all possible outcomes

Outcome/Event: the result of an experiment

Random Sample:
Each outcome has the same chance of being selected. If the chances are not equal then it is said to be bias (unfair).

Fair (Unbias): All outcomes are equally likely to occur.

Unfair(Bias): One outcome is favored over another

Ex. 1 Each positive integer from one to five inclusive is written on a piece of paper, and the pieces of paper are shuffled. List a sample space for the outcome of drawing one piece of paper.

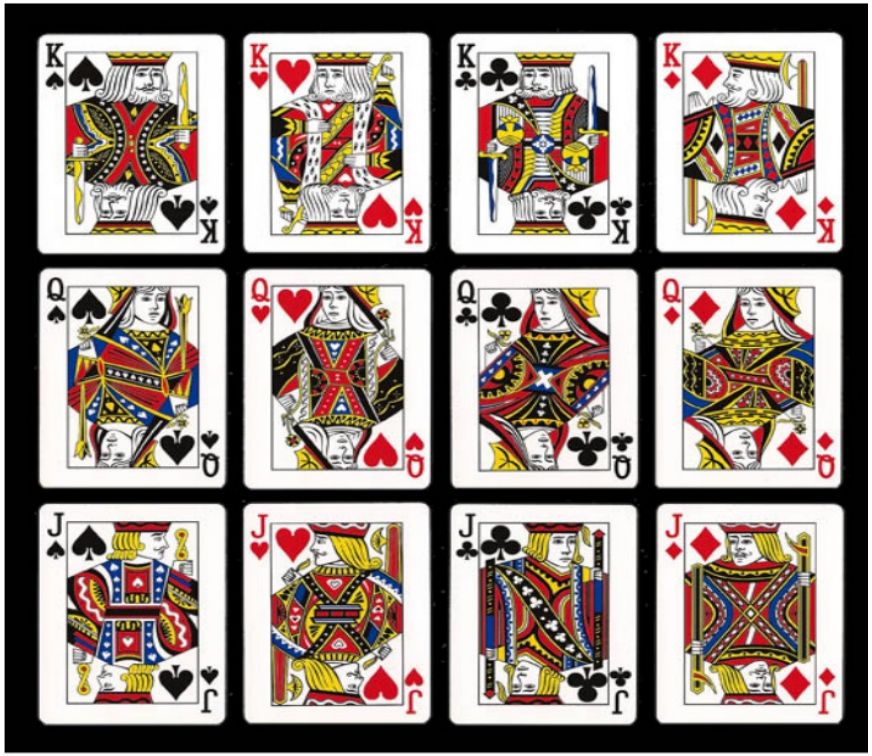
Any one of the five numbers is equally likely to be drawn. The sample space is {1, 2, 3, 4, 5}.

2. Two jelly beans are to be drawn from a jar known to contain only red jelly beans and green jelly beans. List a sample space for the result of the drawing.

Since the jelly beans must be red or green, a sample space is { (R,G), (R,R), (G,R), (G,G)

3. Three cards are drawn from a deck of face cards.

List a sample space for the result of the drawing.



Probability Trees

1) Draw branches for each of the outcomes of the first event.

2) From each of those branches, draw branches for the second event.

1. Draw a probability tree for the outcomes of flipping three coins. Find the probability of each outcome.

2. Draw a probability tree for the outcomes of flipping a coin then rolling a six sided fair die. Find the probability of each outcome.

3. A bag contains 3 blue marbles and 2 purple marbles. Draw a probability tree and find the probability of each outcome. (The marbles are replaced after each draw.)

Closure

1.

2.

3.

Probability Assignment 1 Handout

1. Student/Parent Information Sheet

2. Syllabus

3. Get supplies

4. Complete Day 1 Homework

5. Binder