

1.1a Homework: Probability Predictions

1. You flipped a coin 50 times and got 23 heads. What is the experimental probability of getting a head? Write your answer as a fraction, decimal and percent.

2. If you flipped the coin 100 times, how many heads would you expect to get? Explain your answer.

3. A coin is tossed 20 times. It lands on heads 9 times. What is $P(H)$ according to your experiment? Write your answer as a fraction, decimal and percent.

4. You're a teacher in a 7th grade math class and you want to create an experiment for your class with red, yellow and purple marbles in a bag. You want the theoretical probability of drawing a red marble to be $\frac{1}{2}$, the theoretical probability of drawing a yellow to be $\frac{1}{3}$, and the theoretical probability of drawing a purple to also be $\frac{1}{6}$. If you want a total of 1260 marbles in the bag:
 - a. How many red marbles are you going to put in the bag? Why?
 - b. How many yellow marbles are you going to put in the bag? Why?
 - c. How many purple marbles are you going to put in the bag? Why?'

4. **Challenge:** You've decided you want to make the marble experiment a little more difficult. You want to use 400 marbles and you want six different colors—blue, red, green, yellow, purple, and pink. You also do not want more than two colors to have the same probability. State the number of each color you are going to put in the bag and what the theoretical probability of drawing the color will be (answers will vary.)
 - a. Blue: $P(B)$ _____ and actual number of blue _____
 - b. Red: $P(R)$ _____ and actual number of red _____
 - c. Green: $P(G)$ _____ and actual number of green _____
 - d. Yellow: $P(Y)$ _____ and actual number of yellow _____
 - e. Purple: $P(Purple)$ _____ and actual number of purple _____
 - f. Pink: $P(Pink)$ _____ and actual number of pink _____

Answer the following:

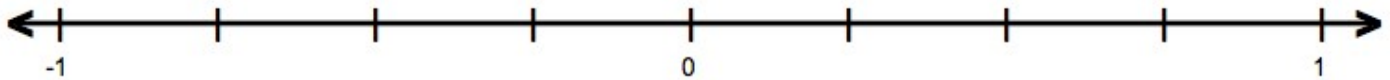
5. Without using a calculator, determine which fraction is bigger in each pair. Justify your answer with picture and words.

a. $\frac{1}{3}$ or $\frac{1}{2}$

b. $\frac{3}{7}$ or $\frac{3}{5}$

6. Place the fractions on the number line below.

$$\frac{1}{2}, \frac{3}{5}, \frac{1}{3}, \frac{2}{5}$$



7. Order the following fractions from *least to greatest*.

$$\frac{1}{2}, \frac{3}{5}, \frac{1}{3}, \frac{2}{5}$$

Spiral Review

1. Use a bar model to represent $\frac{3}{4}$ of a whole.

2. Solve using bar model $\frac{1}{2} + \frac{3}{7} = \underline{\hspace{2cm}}$