

Assignment

Write

1. Each time you repeat an experiment, it is called a(n) _____.
2. A(n) _____ is an experiment that models a real-life situation.

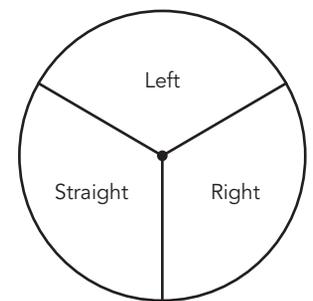
Remember

As the number of trials increases, the experimental probability gets closer and closer to the theoretical probability.

Practice

Conduct each experiment as described and record your results in the table. Use your results to determine the experimental probability.

1. At the first intersection of a corn maze, a person can go left, right, or straight. Use the spinner to model the person choosing the direction they will go. Use a paper clip as the arrow part of the spinner. Place a pencil point through the paper clip and then on the center of the circle. Perform 30 trials of the experiment. Record the results in a table using tally marks.



What is your experimental probability that the person turns right?

2. A theater audience is made up of half boys and half girls. One person is chosen at random to volunteer on stage. Toss a coin to model the person being chosen from the audience. Perform 40 trials of the experiment. Record the results in a table using tally marks.

What is your experimental probability that the volunteer is a girl?

3. Two thirds of the fish in a lake are trout. A fisherman catches 1 fish. Roll a number cube to model the fisherman catching the fish. Perform 25 trials of the experiment. Record the results in a table using tally marks.

What is your experimental probability that the fisherman catches a fish that is not a trout?

4. A drawer contains 10 white socks and 10 brown socks. The socks are mixed up. Joy chooses 1 sock without looking. Use a number cube to model Joy choosing the sock. Perform 30 trials of the experiment. Record the results in a table using tally marks.

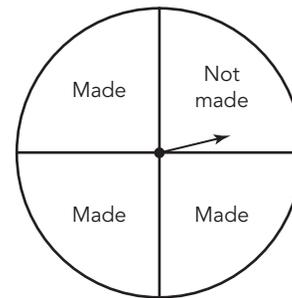
What is your experimental probability that Joy chooses a brown sock?

5. A multiple-choice quiz has 4 questions. Each question has 3 possible answers. You guess the answer to each question. Use 3 slips of paper, one labeled *correct*, one labeled *incorrect*, and another labeled *incorrect*, to model guessing the answer to one question. Perform 10 trials of the experiment, where each trial consists of pulling a slip of paper from a bag without looking 4 times. Be sure to return the paper you chose back into the bag before choosing again. Record the results in a table.

What is your experimental probability that you get at least 2 questions correct?

6. A basketball player makes a foul shot 75% of the time. He is given the chance to make 2 foul shots. Use the spinner to model the player attempting a foul shot. Perform 20 trials of the experiment, where each trial consists of spinning the spinner 2 times. Record the results in a table.

What is your experimental probability that the player makes both foul shots?



Stretch

You will learn about compound probability in the next topic. However, you can always use experimental probability to help you make a better guess about a theoretical probability that you don't know about.

Determine the experimental probability of rolling two ones in a row on a number cube. Use your results to reason about determining the theoretical probability for this compound event.

Review

- Determine if each probability can be determined experimentally, theoretically, or both. Explain your reasoning.
 - Humans will land on Mars in the next 10 years.
 - A number cube is rolled two times and the product of the two numbers is recorded.
 - A box contains red, white, and blue marbles and you are not allowed to look inside the box. You reach in and grab a blue marble.
 - A coin is tossed ten times and the results are recorded.
 - The next car to pass you will be silver in color.
- Write an equation to represent each situation. Define your variables and solve the equation.
 - Jade has to earn \$230 for her dance team fundraiser selling candy bars. If she has already earned \$165, how many more candy bars does she have to sell at \$1.50 each to meet her goal?
 - Zola is making a 60-minute playlist of her favorite songs. If each song is approximately 4 minutes and 30 seconds long, how many songs will be in the playlist?
- Determine each sum. Show your work.
 - $-44.3 + 94.2$
 - $6\frac{4}{5} + (-10\frac{2}{3})$