

Name _____

Date _____

Experimental Probability

You have two sticks. Each stick has one blue side and one pink side. You throw the sticks 10 times and record the results. Use the table to find the experimental probability of the event.

Outcome	Frequency
2 blue	1
2 pink	3
1 blue, 1 pink	6

1. Tossing 2 pink
2. Tossing 1 blue and 1 pink
3. *Not* tossing all pink
4. You check 15 bananas. Six of the bananas are bruised.
 - a. What is the experimental probability that a banana is bruised?
 - b. What is the experimental probability that a banana is *not* bruised.
5. Sixteen students have cell phones. Five of the cell phones have touch screens.
 - a. What is the experimental probability that a student's cell phone has a touch screen?
 - b. Out of 144 students with cell phones, how many would you expect to have a touch screen?

You flip a coin twice. You repeat this process 12 times. The table gives the results.

Outcome	Frequency
2 Heads	2
1 Head, 1 Tail	7
2 Tails	3

6. Use the first table to find the experimental probability of each outcome.
7. Based upon experimental probability, which outcome is most likely?
8. The second table gives the possible outcomes of flipping a coin twice. Each of these outcomes is equally likely. What is the theoretical probability of getting 1 tail?
9. Compare your answers to Exercises 7 and 8.

1st Flip	2nd Flip
Head	Head
Head	Tail
Tail	Head
Tail	Tail

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Theoretical Probability

Use the spinner to determine the theoretical probability of the event.



1. Spinning a 3
2. Spinning an even number
3. Spinning a number greater than 2
4. Spinning a multiple of 3
5. Each letter of the word ENGLISH is written on a separate index card. What is the theoretical probability of randomly choosing a card that contains a vowel?
6. The theoretical probability of winning a prize in a cereal box is $\frac{1}{10}$. There are 40 cereal boxes on the supermarket shelf. How many contain a prize?

A number cube is rolled. Determine if the game is fair. If it is *not* fair, who has the greater probability of winning?

7. You win if the number is even. Your friend wins if the number is less than 5.
8. You win if the number is divisible by 3. Your friend wins if the number is 1 or 6.
9. You get one point if a number greater than 3 is rolled. Your friend gets one point if a number less than 3 is rolled. The first person to get 7 points wins.
 - a. Is the number cube fair? Explain.
 - b. Is the game fair? Explain.
 - c. Predict the number of turns it will take you to win.
10. An event has a theoretical probability of $\frac{2}{3}$. What does this mean?