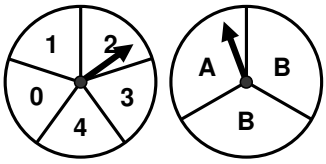
NAME

Compound Events: Classwork

Give each probability as a reduced fraction and a percent (rounded to the nearest tenth).

1. In the Double Spinner Game, you spin each spinner once.
You win if you spin an odd number, and then spin A.



a. Using a counting tree
On your POD paper, make a counting tree to show all of the possible outcomes. Use it to find the probability of winning.

b. Using the counting principle
How many total combinations are possible? Show your work.

How many combinations are winning combinations? Show your work.

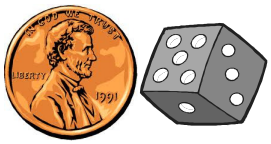
What is the probability of winning?

c. Using individual probabilities
What is the probability of spinning an odd on the first spinner?

What is the probability of spinning A on the second spinner?

What do you get when you multiply the two probabilities together?

2. In the Flip-and-Roll Game, you flip a coin and then roll a die.
You win if you flip heads and then roll a 5.



a. Using a counting tree
On your POD paper, make a counting tree to show all of the possible outcomes. Use it to find the probability of winning.

b. Using the counting principle
How many total combinations are possible? Show your work.

How many combinations are winning combinations? Show your work.

What is the probability of winning?

c. Using individual probabilities
What is the probability of flipping heads?

What is the probability of rolling a 5?

What do you get when you multiply the two probabilities together?

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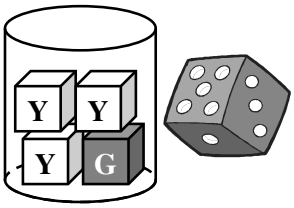
3. In the Pick-and-Roll Game, you randomly pick a cube and then roll the die. You win if you pick a green and roll anything except 6.



a. Using a counting tree
On your POD paper, show how to use a counting tree to find the probability of winning the game.

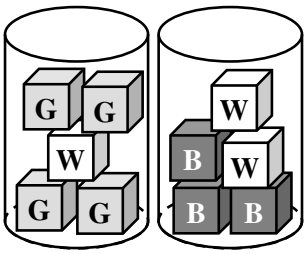
b. Using the counting principle
Show how to use the counting principle to find the probability of winning the game.

c. Using individual probabilities
Show how to use individual probabilities to find the probability of winning the game.

4. In Michigan, license plates have either three letters followed by three numbers, or they have three numbers followed by three letters. How many different license plates are possible? Show your work.

5. Canadian zip codes are made up of six symbols, alternating between letters and numbers. Their pattern is letter-number-letter number-letter-number. For example, a zip code you might see is H2H-1V3. How many zip codes are possible? Show your work.

6. In the Two Bucket Game, you draw one cube from each bucket. If both cubes are white, then you win!



a. What is the probability of winning the game? Show how you found your answer.

b. About how many times would you win if you played 500 times? Show your work.

c. About how many times would you have to play in order to win 90 times? Show your work.

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Compound Events: Homework

7. The ASB election has 5 candidates for president, 4 for vice president, 4 for secretary, and 2 for treasurer. How many election results are possible? Show your work.

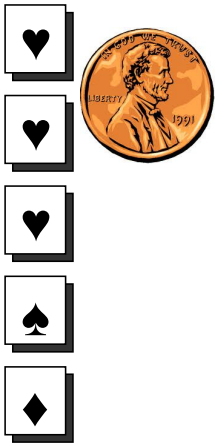
8. Justin has to call each of his 5 girlfriends, but he hasn't decided in what order to call them. How many choices does he have? Show your work.

9. Suppose each letter in BIEBER is written on a separate piece of paper and put into a bag. You randomly select a piece of paper from the bag.

a. If you played the game 172 times, about how many times would you expect to select a **B**? Show your work.

b. About how many times would you have to play to select a **B** 28 times? Show your work.

10. In the Choose-and-Flip Game, you randomly select a card and then flip a coin. You win if you select a heart and flip heads



a. Use one of the methods we learned in class to find the probability of winning the game. Show your work.

b. If you played the game 400 times, how many times could you expect to win? Show your work.