

Name _____

Date _____

Topic 7: Independent Events

9.7 Notes/Classwork

AIM: How do you find the probability of independent events?

A **compound event** consists of 2 or more separate events.

Independent events are when one event does **not** affect the other.

Example 1:

An experiment consists of spinning the spinner two times. What is the probability of spinning an 8 two times?

Notation: $P(8, 8)$



Step 1: Determine if the event is independent or dependent.

Step 2: How many events are taking place?

Step 3: Find the probability of each event.

Step 4: Multiply the probabilities.



****IMPORTANT:** In probability the word “and” means to **multiply**.**

Try It!

Find the probability of spinning a 2 followed by an odd number.

$P(2, \text{odd number}) =$

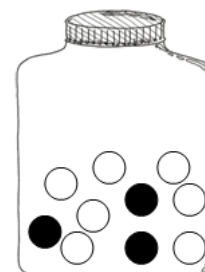


Example 2:

A jar contains 7 white marbles and 3 black marbles. You draw a marble at random, replace it, and then draw another marble.

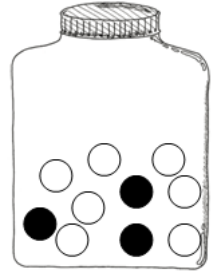
Find the probability that both marbles are black.

$P(\text{black and black}) =$



Try It!

A jar contains 7 white marbles and 3 black marbles. You draw a marble at random, replace it, and then draw another marble. Find the probability that both marbles are white.



$$P(\text{white, white}) =$$

Example 3:

A jar contains 2 yellow marbles, 3 red marbles and 5 blue marbles. You draw a marble at random and replace it, and then draw another marble.

$$P(\text{yellow, blue}) =$$

Try It!

A jar contains 2 yellow marbles, 3 red marbles and 5 blue marbles. You draw a marble at random and replace it, and then draw another marble.

$$P(\text{blue, red}) =$$

On Your Own!

- 1.) A bag contains 2 A's, 3 B's and 1 C. You choose a letter from the bag at random, replace it, and then choose a second letter. Find the probability of getting two B's.

$$P(B, B) =$$

- 2.) If you toss a coin and then roll a die, what is the probability of landing on heads and rolling an even number?

$$P(\text{heads, even}) =$$