Comparing Theoretical and Experimental Probability

	THEORETICAL PROBABILITY	**EXPERIMENTAL PROBABILITY**
Calculation Method?		
Time Frame?		
When Used?		
Product?		

As the number of trials in an experiment increases, experimental probability often approaches theoretical probability.

Example 1

You roll a die 20 times and observe an even result 13 times.

a. What is the experimental probability of rolling an even number?

b. What is the theoretical probability of rolling an even number?

c. What could be done to make the experimental value more accurate and closer to the theoretical value?

Example 2

An ice cream shop offers multiple options. The ice cream can be served on a chocolate dipped cone or a plain cone, with chocolate, raspberry or vanilla ice cream. A customer can also request sprinkles or no sprinkles. All ice cream cone options have an equal chance of being chosen.

    a. Create a tree diagram to list all possible ice cream cones.

    b. How many ice cream cone combinations can be made?

    c. What is the probability that a customer orders a raspberry ice cream cone?

    d. What is the probability that a customer orders a chocolate ice cream cone with sprinkles?