Discovering the Basic Counting Principle

Name:_____

7th Grade Math

For each problem below...

- ✓ Create a tree diagram for the situation.
- ✓ Fill in the table based on your findings.
- ✓ Jot down any special observations that you notice about the table.

1. The school cafeteria sells sandwiches for which you can choose one item from each of the following categories: two breads (white or wheat), two meats (ham or turkey), and two cheeses (swiss or cheddar). Draw a tree diagram to find the number of sandwich choices.

Complete the table for question one.

	Number of Options
Bread	
Meat	
Cheese	
Total Possible Outcomes	

Observations from the table...

2. A school team sells caps in two colors (blue or white), two sizes (child or adult), and two fabrics (cotton or polyester). Creat a tree diagram to find the number of cap choices.

Complete the table for question two.

	Number of Options
Color	
Size	
Fabric	
Total Possible Outcomes	

Observations from the table...

3. A model of car has 5 colors (red, blue, white, black, or green) and 2 types of engines (V6 or V8). Create a tree diagram to represent the possible outcomes.

Complete the table for question three.

	Number of Options
Color	
Engine	
Total Possible Outcomes	

Observations from the table...

4. If Tom's closet has 3 shirts (white, black, or gray) and 2 pants (black or gray). Create a tree diagram to represent the possible outcomes.

Complete the table for question four.

	Number or Options
Shirts	
Pants	
Total Possible Outcomes	

Observations from the table...

FORMULATE A CONJECTURE THAT DESCRIBES THE BASIC COUNTING PRINCIPLE: :