Fundamental Counting Principle   Name_____
Worksheet   Hour_____
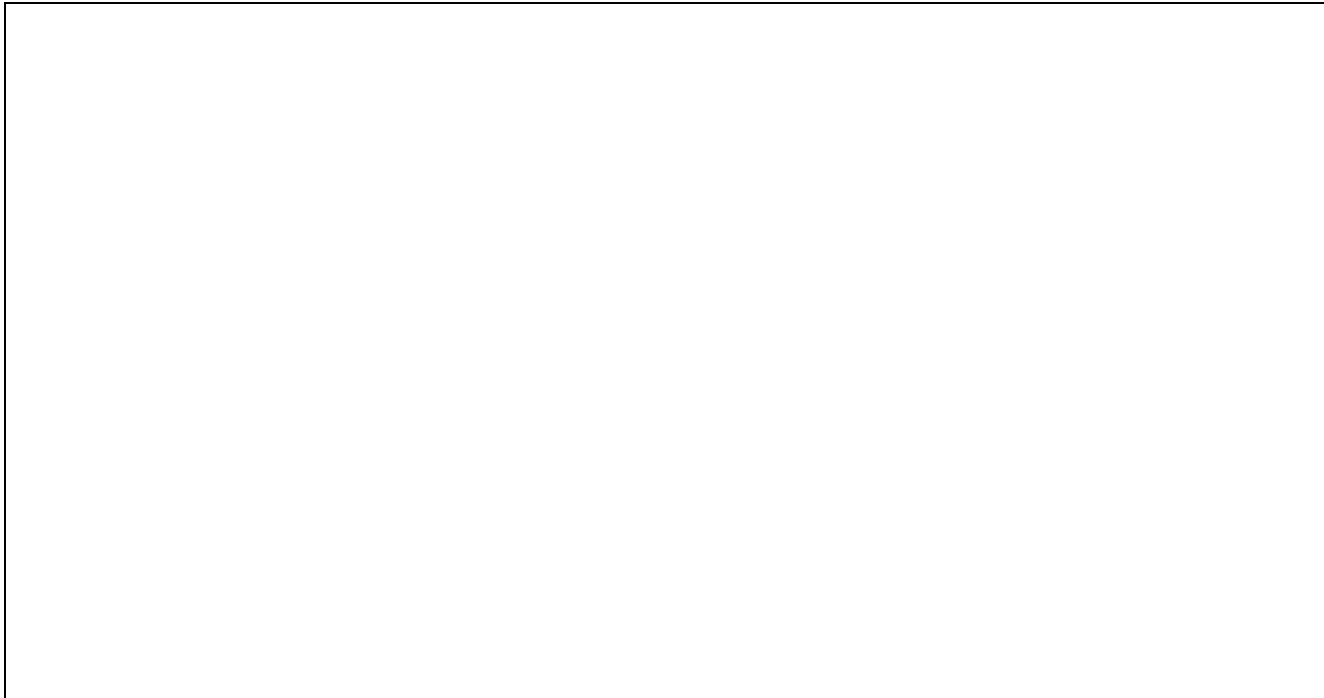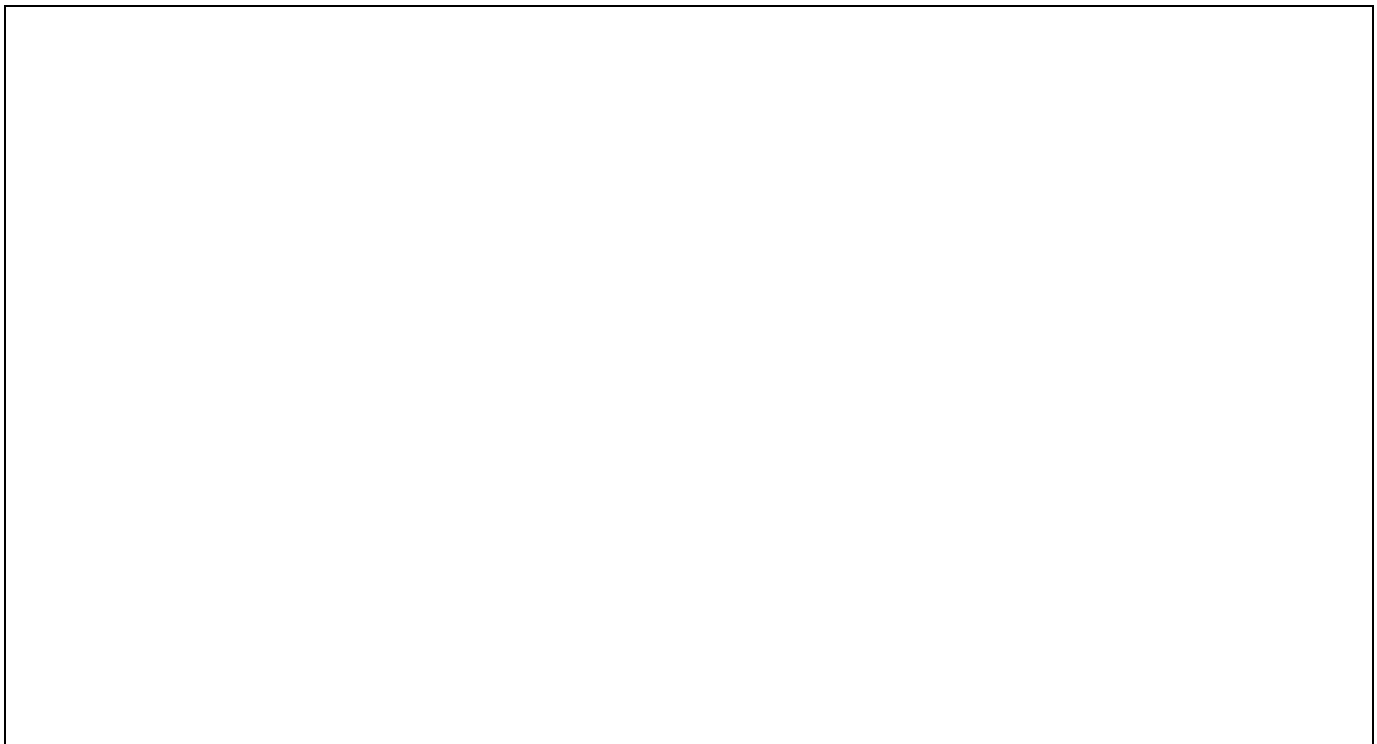
Draw a tree diagram for each of the following problems.

1. You go to the snack bar to buy a bagel and a drink for lunch. You can choose from a plain
    bagel, a blueberry bagel, or a raisin bagel. The choices for a drink include water or a sports
    drink. How many different lunches could be made with these choices?

2. When you get ready to get dressed for school you open your closet to find that you have
    the following choices: a red, blue, or white shirt; jeans or sweatpants; tennis shoes or
    sandals. How many different outfits could be made with these choices?

Use the Fundamental Counting Principle to answer the following problems.

3. The math club is electing new officers. There are 3 candidates for president, 4 candidates for vice-president, 4 candidates for secretary, and 2 candidates for treasurer. How many different combinations of officers are possible?

4. You go to the cafeteria for lunch and have a choice of 4 entrees, 5 sides, 5 drinks, and 4 desserts. Assuming you have one of each category, how many different lunches could be made?

5. You go to the home electronics store to buy a new television. You have the following choices: rear projection, lcd, dlp, crt, or plasma; full screen or wide screen; 13", 19" 27", 32", 36", 41", 51", or 63". How many different televisions does the store have to offer?

6. You toss a penny 4 times. How many different outcomes are there?

7. You wake up in the morning and go to the pantry to look for breakfast. You have a choice of Pop-Tarts, muffins, granola bars, or cereal. To drink you have a choice of whole milk, 2% milk, skim milk, orange juice, apple juice, and water. Your mother insists that you take a multi-vitamin with your breakfast. You can choose from Flintstones vitamins, One-a-Day vitamins, or Chock's Vitamins. How many different breakfasts made up of an entrée, drink, and vitamin could you make?

8. You go to Wal-mart to buy batteries. You can choose from EverReady, Duracell, or Ray-O-Vac. Once you decide on the brand you then have to decide whether to get alkaline or non-alkaline batteries. Finally you must decide between AAA, AA, C, or D batteries. How many different kinds of batteries are available for you to buy?