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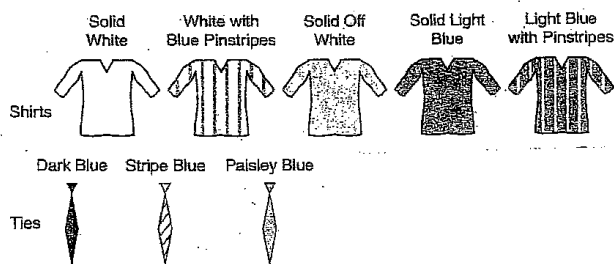
Probability Practice (Acc)

Counting Techniques

1. On a particular night at a restaurant, there is a special in which you can choose a dinner consisting of a cup of soup, one entrée, one dessert, and a beverage, all for only \$4.95. There are 4 kinds of soup, 10 entrees, 6 desserts and 3 different beverages. Use the counting principle to find how many different meals you could choose.

2. The four officers of a seventh grade class, Sue, David, Angel and Brett, are having their picture taken for the yearbook. Use a tree diagram to determine the number of different ways the four can stand in a row.

3. You need to buy a shirt and tie for a special occasion. There are five different colors of shirts and three different types of ties to choose from. Use the counting principle to find how many different combinations of a shirt and tie are possible. Then confirm your answer by listing the different combinations.



4. Your dog has eaten almost all of the pieces of paper that has your friend's new phone number since she moved. You can still see that the first three numbers are 339 and the last two numbers are 11. With this information, how many different numbers are possible? What is the probability of correctly guessing the correct number? (you are not considering the area codes)

5. The lock on your locker at school is a combination lock with 50 numbers on the dial. Three numbers are needed to unlock the lock and numbers can be repeated. How many different three number patterns are possible? What is the probability that you unlock the lock, not knowing the combination, the first time you try?

6. Television and radio stations are known by their call letters, for example, KISS. The Federal Communication Commission (FCC) sets regulations for these broadcast stations. One regulation is that these call letters must be of a certain form. The first letter must be either a W or a K. The remaining three letters may be any letter of the alphabet and letters may be repeated. Use the counting principle to determine the total number of four letter combinations that are possible. If you choose one of the combinations at random, what is the probability that the one you choose has a second letter this is a Q?