Review for 4-1 through 4-3 Name:

1) Use a tree diagram to show all the possible combinations of child gender in a family of four children.
(**Hint: this is just like the four coins but with boys and girls instead of heads and tails)**

2) A box contains a $1 bill, a $5 bill, and a $10 bill. Two bills are selected in succession without replacement. Draw a tree diagram showing the possible results.

3) Suppose a sales rep can travel from New York to Pittsburgh by plane, train, or bus, and from Pittsburgh to Cincinnati by bus, boat, or automobile. Create a tree diagram that shows all the ways he can travel from New York to Cincinnati.

Find the probabilities of each of the following. You must be able to state these as reduced fractions, percents, and/or decimals to the nearest hundredth.

In a standard deck of 52 cards find the following probabilities

4) drawing an ace

5) drawing an even numbered card

6) drawing a jack of spades

7) drawing a face card (hint: J, Q, or K)

8) drawing a card with the number 15 on it

9) Mrs. Fisher entered the raffle to win the Ford focus at Dallastown. If she bought 10 tickets and the school sold a total of 115 tickets, what is Mrs. Fisher's chance of winning the car?

10) You are trying to catch the biggest fish in a pond. If there are 234 fish in the pond, what is the chance that you will catch the one that is the biggest?

Find the total number of combinations.

11) How many five digit zip codes are possible if digits can be repeated?

If they cannot be repeated?

12) How many 10 digit phone numbers are possible if digits can be repeated?

13) How many ways can a baseball manager arrange a batting order of nine players? (this would be without replacement since each player can only be counted once)

14) At Ms. Boyd's farm there are three horses, two llamas, and four goats. How many different ways can their stalls be arranged in the barn?