Lab for Sections 13.4

Use good notation and show appropriate work.   Name _____
State your solutions to problems in complete sentences.

1. From nine different books, including just two books of poetry, how many groups of five books can be formed if each group is to include just one book of poetry?

2. A person is dealt a bridge hand consisting of eight hearts and five spades. How many different versions of this hand are possible?

3. You can give five candy bars to Kim, Pat, and Lynn. In how many ways can this be done? *Assume a candy bar cannot be cut.*

4. You are taking a multiple choice exam with 15 questions. Each question has 3 responses. Since you did ***not*** study for the exam, you decide to guess all the answers. How many different ways can you complete the test?

5. In how many ways can a women's softball coach assign nine positions to nine players, if only three are able to pitch and only two (neither can pitch) are able to catch, while all can play any of the seven other positions?

6. In how many ways can seven people sit in a row of seven seats, if a certain group of four insists on sitting together?

7. For the game of PowerBall in 2011, five white balls are drawn from a drum with 59 white balls and one red ball is drawn from a drum with 39 red balls.

    (a) How many different outcomes are possible?

    (b) How many different outcomes have the numbers 12, 16, and 58 on three drawn white balls, any two other numbers on the remaining white balls, and 20 on the red ball?

    (c) How many different outcomes have the numbers 12, 16, and 58 on three drawn white balls, any two other numbers on the remaining white balls, and any number other than 20 on the red ball?

    (d) A prize of $100 may be won two different ways: (1) only four white balls match the player's chosen numbers or (2) only three white balls and the red ball match the player's chosen numbers. How many different outcomes are there for winning the $100 prize?