1. Assume our alphabet consists of the letters \{a, b, c, d, e\}.
   (a) How many three letter words can I make?
   (b) How many three letter words can I make if no character is repeated?
   (c) How many six letter words can I make if every character in the word appears exactly three times?
   (d) How many six letter words can I make if one character in the word appears exactly four times and the other character appears exactly twice?
   (e) How many six letter words can I make if an “a” must occur somewhere in the word?
   (f) How many six letter words can I make if whenever an “a” occurs in the word “b” must also occur somewhere?

2. I have a book containing a total of 56 songs. I would like to sing 20 of the songs. How many ways can I do this, where a different order of songs is considered a different way?

3. Twenty football players are eligible to be drafted by three teams: the Birds, the Cats, and the Dogs. Each team must draft six players. (So two players will not be drafted.)
   (a) In how many ways can this be done?
   (b) If Bob and Ray will only play if they are on the same team together, in how many ways can this be done?
   (c) If Bob and Ray refuse to play on the same team together, in how many ways can this be done?