1. Compute the following:

   (a) $C(30, 3)$

   (b) $C(15, 4)$

   (c) $C(9, 5)$

   (d) $C(25, 2)$

2. How many committees of 3 people can be formed from a group of 8 people?

3. A sample of 3 light bulbs is randomly selected from a batch of 15. How many different samples are possible?

4. A major department store chain will be closing 4 of its 11 stores in the state. In how many ways can the 4 stores be chosen?

5. How many tennis doubles teams can be formed from 12 players?

6. In how many ways can a host choose 4 couples to invite for dinner from a group of 10 couples?

7. 3 people are randomly chosen out of 50 people to receive a door prize. If the door prizes are identical, in how many ways may they be given out?

8. A standard deck of 52 cards has 4 suits (Diamonds, Hearts, Clubs and Spades) and there are 13 cards in each suit (Ace through King).

   (a) In how many ways can 4 Diamonds be chosen from the deck?

   (b) In how many ways can a hand of 4 red cards be chosen from the deck?

   (c) In how many ways can 2 kings and 2 queens be chosen?

9. A city council is composed of 5 liberals and 4 conservatives. A delegation of 3 is to be selected to attend a convention.

   (a) How many delegations are possible?

   (b) How many of these delegations could have all liberals?

   (c) How many of these delegations can have 2 conservatives and 1 liberals?

   (d) How many of these delegations could have 2 or more liberals?

10. The chess club at a certain school has 10 members of which 6 are seniors and 4 are juniors.

    (a) In how many ways can 5 members be chosen for an upcoming tournament?

    (b) In how many ways can this group consist of at least 3 seniors?