Homework 6
Due date: 10/19/04

1. Explain why
   (a) $C(10, 4) = C(10, 6)$,

   (b) $C(n, r) = C(n, n - r)$.

2. A company is sending 4 of its 10 executives to a meeting. How many different sets of 4 executives can be selected?
3. An employment agency has 5 temporary workers.
   (a) In how many ways can three of them can be assigned to the research department?
   (b) In how many ways can two of them be assigned to two different companies A and B?

4. How many distinct arrangements can be made with the letters in the word INSTITUTIONS? Explain your reasoning. (Hint: Use the Counting Principle. The task is to fill an appropriate number of spots with letters. A typical step in in filling the spots is to determine which will be taken by given letters. Therefore, for each step one has to count the number of possible choices of the spots to be filled by a certain number of letters.)