Assignment III

Q1.

A) There are 5 mathematics students and 7 statistics students in a group. Find the number of ways of selecting 4 students from the group, if (a) there are no restrictions; (b) all must be mathematics majors; (c) all must be statistics majors; (d) all must belong to the same discipline; and (e) the 2 disciplines must have the same number of representatives.

B) A country club has 8 men and 6 women on its governing board. There is 1 married couple in the board. Find the number of ways of forming a fund-raising committee consisting of 3 men and 3 women from the board such that the committee may include either the husband or the wife but not both.

Q2.

A) Find the minimum number of students to be admitted to a college such that at least 1 of the 50 United States is represented by 20 or more students.

B) A typical telephone number in the United States is of the form NXX NXX XXXX, where the Ns are digits other than 0 or 1 and the Xs are any digits. The first 3 digits constitute the area code. Find the minimum number of area codes needed to serve a 23-million-subscriber area.