

## STAT 313. ASSIGNMENT NO. 2

Due on Tuesday, February 6, 2001

- **Read** Chapter 3.
- **Do** the following exercises:
  1. Provide a reasonable description of the sample space  $S$  and the size of  $S$  (i.e. the number of outcomes in  $S$ ) for each of the random experiments in 3.2, 3.5, 3.8 and 3.13. Use a tree diagram when necessary or convenient.
  2. In a quality control procedure, an inspector selects 2 of 6 parts ( $A, B, C, D, E, F$ ) to test for defects. In a group of 6 parts, how many combinations of two parts may be selected? Complete the sample space in the formate of  $\{AB, AC, \dots\}$ . If any two parts from the sample space is chosen equally likely, what is the chance that  $AB$  is selected?
  3. The state of Ohio lottery system uses the random selection of 6 numbers from a group of 47 numbers to determine the weekly lottery number winner. The order of 6 numbers matters. If a student decides to play the lotte, what's the chance that he/she will win?
  4. In a study of 100 students who had been awarded university scholarships, it was found that 40 had part-time jobs, 25 had the dean's list the previous semester, and 15 had both a part-time job and had made the dean's list. What was the probability that a student had a part-time job or was on the dean's list?
  5. Do what're asked in 3.16, 3.23, 3.32, 3.36, and 3.42.
- **Try** (optional)  
3.15, 3.26, 3.38, 3.44