STAT 217: Worksheet 5 (1-2)

1. Identify each of the following as a chi-squared test of independence or a chi-squared test of homogeneity.

   - A sample of 36 students was selected and each student was categorized according to gender (M,F) and outdoor activity preference (skiier, ice skater, soccer).

   - To see if there was an association between race and opinions about schools, researchers surveyed 3 randomly selected groups of parents (black, hispanic, and white) and asked them "Are high schools in your state doing an excellent, good, fair or poor job?".

   - In a group of 100 bamboo plants, 50 were randomly assigned to fertilizer A and 50 were randomly assigned to fertilizer B. Six months later, the growth of the plant was recorded as "less than 6 inches", "6 to 12 inches", or "more than 12 inches".

2. Suppose thirty of the fifty plants assigned to fertilizer A grew less than 6 inches, eight plants grew between 6 and 12 inches, and the rest grew more than 12 inches. Of the plants assigned to fertilizer B, seventeen grew less than 6 inches, two grew 6 to 12 inches, and the rest grew more than 12 inches.

   (a) Make a contingency table for these data.

   (b) Sketch a graphical display for these data. Identify your drawing as a stacked barchart or a mosaic plot depending on what type of test you will perform.