Solutions

STAT 217: Quiz 15

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 were then categorized according to gender (M,F) and political party preference (Democrat, Republican, Independent).

     chi-squared test of Independence

   - To determine 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 or dont you know enough to say?.

     chi-squared test of homogeneity

   - In a group of 100 18-year-olds, 50 were randomly assigned to become smokers and 50 were randomly assigned to be non-smokers. Thirty years later, each person was identified to have "lung cancer" or "no lung cancer".

     chi-squared test of homogeneity

2. Suppose 30 of the 50 smokers in the last problem had lung cancer, and only 5 of the 50 nonsmokers had lung cancer.

   (a) Make a contingency table for these data.

	Cancer	No Cancer
Smoker	30	20
Non-smoker	5	45

   (b) Sketch a stacked barchart for these data.