

Math 110
Spring, 2009

Name _____
Calculator _____

Homework #14
Due Wednesday May 13
No late papers accepted! No excuses!

1. In a sample of 50 men, 44 said that they had less leisure time today than they had 10 years ago. In a sample of 50 women, 48 said that they had less leisure time than they had 10 years ago. At the 10% significance level is there a difference in the proportion?

2. The American Automobile Association claims that 54% of fatal car/truck accidents are caused by driver error. A researcher studies 30 randomly selected accidents and finds that 14 were caused by driver error. At the 5% significance level can the AAA claim be refuted?

3. A composition teacher wishes to see whether a new grammar program will reduce the number of grammatical errors her students make when writing a two-page essay. The data are shown here. At a 2.5% significance level, can it be concluded that the number of errors has been reduced?

Student	1	2	3	4	5	6
Before	12	9	0	5	4	3
After	9	6	1	3	2	3

4, The average size of a farm in Indiana County, Pennsylvania is 191 acres. The average size of a farm in Greene County, Pennsylvania is 199 acres. Assume the data were obtained from two samples with standard deviations of 38 and 12 acres, respectively, and sample sizes of 8 and 10, respectively. Can it be concluded at 5% significance level that the average size of the farms in the two counties is different. Assume the populations are normally distributed.