**Attendance Quiz #10**

**Work in groups of 2!**

**Name #1:­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name #2:­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Suppose that I randomly select 100 female Lafayette students and 400 male Lafayette students and ask them if they have ever lied to get out of a speeding ticket. Of the women, 20 say they have, and of the men, 60 say they have. Is this sufficient evidence to claim that among all Lafayette students, women are more likely to lie to get out of a ticket. Answer by calculating a 90% confidence interval.
2. I work for a consumer advocates group, and we have a suspicion that a car manufacturer has lied that a particular vehicle gets 35 highway mpg. Knowing that the way people drive affects fuel efficiency, we randomly select 25 individuals to drive a particular car and obtain their fuel efficiencies after 50 miles of highway driving. From these people, the average fuel efficiency was 33.1 mpg, and the standard deviation was 3.8 mpg. Can we claim that the manufacturer lied? Test this by calculating a 98% confidence interval.