**1.** Last year, according to consumer group, the average passenger vehicle was driven 10.3 thousand miles with a standard deviation of 2 thousand miles before a claim of accident was made. A random sample of 225 passenger cars was collected by the auto insurance company which showed a mean of 10.1 thousand miles driven when a claim was made. Should the insurance company reject the consumer group's claim? A significance level of .05 was used. A manufacturer of vitamins claimed that its iron pills contain at least 18 mg of iron. A sample of 16 pills yield an average of 17.3 mg with a sample standard deviation of 1 mg. Should we reject the manufacturer's claim that the pills contain at least 18 mg of iron? We assume the population of iron content in all these pills is normally distributed and use a significance level of .01. You should follow the 10step procedure to perform this test.

1. Yes, we should reject the null hypothesis
2. No, we should not reject the null hypothesis

10 Step Procedure:

1. State *H*0 *H*0 *=* *µ ≥ 10.1 thousand miles*

2. State *H*1 *H*1 *=* *µ ≤ 10.1 thousand miles*

3. Choose α α = .05

4. Choose *n n* = 225

5. Choose Test *Z Test (or p Value)*

6. Set Up Critical Value(s) *Z = ????????*

7. Collect Data 225 passenger cars

8. Compute Test Statistic *Computed Test Stat.= ????*???

9. Make Statistical Decision *?????*

10. Express Decision *The true mean # of ???????????????*

**2**. A manufacturer of vitamins claimed that its iron pills contain at least 18 mg of iron. A sample of 16 pills yield an average of 17.3 mg with a sample standard deviation of 1 mg. Should we reject the manufacturer's claim that the pills contain at least 18 mg of iron? We assume the population of iron content in all these pills is normally distributed and use a significance level of .01. You should follow the 10step procedure to perform this test.

1. Yes, we should reject the null hypothesis
2. No, we should not reject the null hypothesis

1. State *H*0 *H*0 *=* *µ ≥ 18 mg*

2. State *H*1 *H*1 *=* *µ ≤ 18 mg*

3. Choose α α = .01

4. Choose *n n* = ????

5. Choose Test *Z Test (or p Value)*

6. Set Up Critical Value(s) *Z = ?????*

7. Collect Data ???????

8. Compute Test Statistic *Computed Test Stat.=* ???????????

9. Make Statistical Decision *?????*

10. Express Decision *The true mean #*