Stat 171 - Worksheet for Section 7.1

Name: _____

1. Write the claim as a mathematical statement. State the null and alternative hypotheses, and identify the claim.

    (a) A consumer analyst report that the mean life of a certain type of automobile battery is not 74 months.

    (b) An electronics manufacturer publishes that the variance of the life of its home theater systems is less than or equal to 2.7.

    (c) A realtor publicizes that the proportion of homeowners who feel their house is too small for their family is more than 24%.

2. A company specializing in parachute assembly states that its main parachute failure rate is not more than 1%. You perform a hypothesis test to determine whether the company's claim is false. When will a type I error occur? Which error is more serious?

3. For each claim in Problem 1, determine whether the hypothesis is a left-tailed test, right-tailed test, or two-tailed test. Sketch a normal sampling distribution and shade the area for the p-value.

    (a)

    (b)

    (c)

4. You perform a hypothesis test for each of the claims in Problem 1. How should you interpret your decision if you reject H_0? If you fail to reject H_0?

    (a)

    (b)

    (c)