Exercises: <u>Chapter 13</u>: 19, 23-27, 31, 44

Problems:

(1) An economist wants to show that the supply of electricity is inelastic. What is the research hypothesis? What is the null hypothesis?

(2) Without doing any formal hypothesis testing, consider the hypotheses H_0: $\mu = -1$ and H_A: $\mu > -1$ and state what the conclusion would be in the following obvious cases. For simplicity, assume that the population is normal so we do not have to worry about a sufficiently large sample size.

    a. X-bar = -2, $\sigma^2 = 36$, n = 9
    b. X-bar = 200, $\sigma^2 = 36$, n = 9
    c. X-bar = 0, $\sigma^2 = 1$, n = 2500
    d. X-bar = -0.5, $\sigma^2 = 100$, n = 36

(3) Consider testing the following hypotheses H_0: $\mu = -1$ and H_1: $\mu < -1$ where the population variance is 4. For a sample size of 100 you obtain a standardized test statistic of -2. What is the point estimate of μ ?