Problem 3) You have a random sample of size 27 from a normally distributed population with variance of 13 and unknown mean. We will test the null hypothesis that μ = 5 against the alternative that μ < 5.

Find a rejection region so that α = 0.05.

Find the power of the test, as a function of μ. Find β(μ).

If the outcome of the sample mean is 3, will you reject H0? What if it is 4?