Stat 2470, Quiz #10, Spring 2015 Name KEY

Instructions: Show all work. State any formulas used. If you use the calculator, you should say which function you used, and what you entered into it, as well as any output. I can only give partial correct for incorrect answers if I have something to grade.

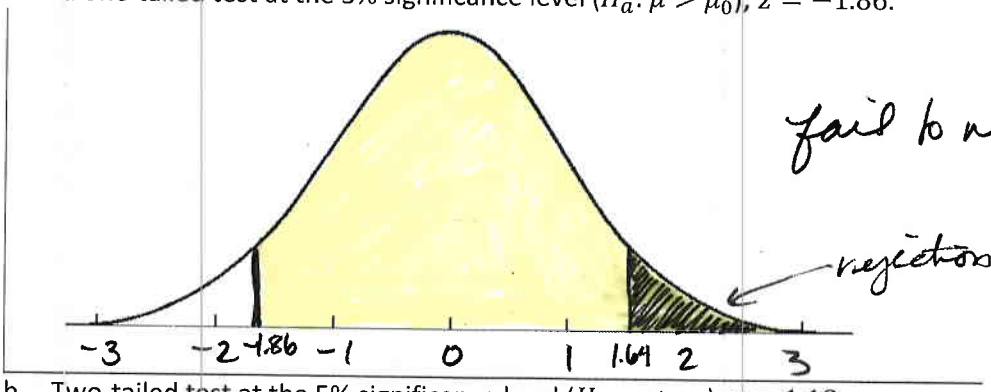
1. Convert the following test statistics to P-values. Say whether you'd reject or fail to reject the hypothesis under the stated conditions at the given level of significance. (5 points each)
   a. $z = 1.77, \alpha = 0.05$, one-tailed $P = .0383$ reject H_0

   b. $z = 5.46, \alpha = 0.001$, two-tailed $P = 4.7727 \times 10^{-8}$ reject H_0

   c. $t = 2.15, n = 11, \alpha = 0.01$, one-tailed $P = .0285$ fail to reject

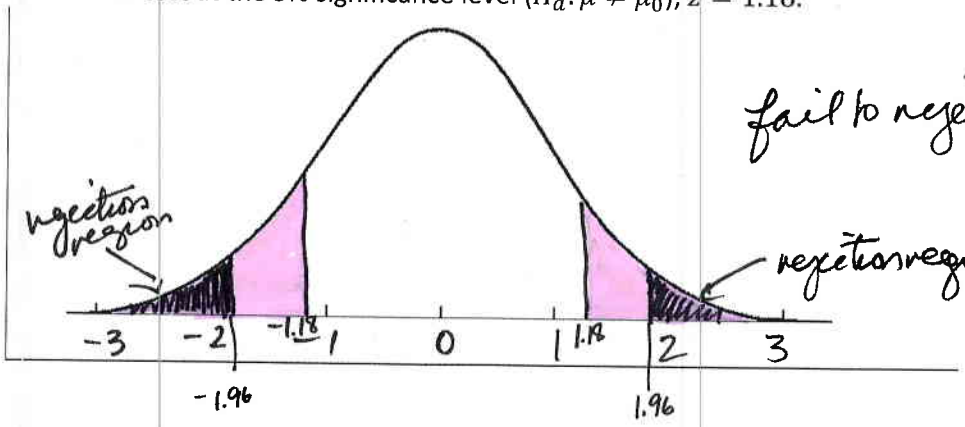
   d. $t = -1.24, df = 7, \alpha = 0.10$, two-tailed $P = .2549$ fail to reject

2. On the graphs below, plot the critical value and shade in the rejection for the indicated significance level and one- or two-tailed hypothesis test. Then say whether the test statistic calls for you to reject or fail to reject the null hypothesis.
   a. a one-tailed test at the 5% significance level ($H_a: \mu > \mu_0$); $z = -1.86$.



fail to reject H_0

   b. Two-tailed test at the 5% significance level ($H_a: \mu \neq \mu_0$); $z = 1.18$.



fail to reject H_0