Answer on Question #60731 – Math – Statistics and Probability

Question

Please find the limit(s) of the boundaries for the critical region for the following hypotheses (You only need to find the z, t, or F-critical value in all cases, e.g., +/2.33. Please do not complete the hypothesis test):

a. Ho: $\mu d \leq 6.5$, Ha: $\mu d > 6.5$, $\alpha = 0.05$, n = 35, s = 2.5.
b. Ho: $\mu 1 - \mu 2 \leq 0$, Ha: $\mu 1 - \mu 2 > 0$, $\alpha = 0.1$, n1 = 13, n2 = 17 ($\sigma 1 = \sigma 2$).
c. Ho: $\mu 1 - \mu 2 \geq 0$, Ha: $\mu 1 - \mu 2 < 0$, $\alpha = 0.025$, n1 = 19, n2 = 27 ($\sigma 1 \neq \sigma 2$).
d. Ho: $\sigma 12 = \sigma 22$, Ha: $\sigma 12 \neq \sigma 22$, $\alpha = 0.01$, n1 = 31, n2 = 21 s1 = 4.1, s2 = 8.3.
e. Ho: $\sigma 12 = \sigma 22$, Ha: $\sigma 12 \neq \sigma 22$, $\alpha = 0.05$, n1 = 22, n2 = 13 s1 = 7.2, s2 = 10.6.

Solution

a. $t_{crit} = 1.691$
b. $t_{crit} = 1.316$
c. $t_{crit} = -2.064$
d. $F_{crit} = \pm 2.778$
e. $F_{crit} = \pm 2.533$