SOLUTIONS

(1) To the nearest tenth, what is the un-standardized rejection region with a 5% significance level? **(E)**

(2) To the nearest hundredth, what is the standardized test statistic? **(D)**

(3) To the nearest hundredth, what is the p-value? **(B)**

(4) In this specific problem what would a Type I error be? **(A)**

(5) If there is a lot of evidence in favor of the research hypothesis what does this suggest about the magnitude of the p-value? **(D)**

(6) Suppose a population is bell shaped and has a standard deviation of 2. A random sample of 17 observations is drawn. The sample mean is 6. The 95% confidence interval estimator of the population mean is [5.05, 6.95]. Approximately how many observations in the sample should fall in the interval from [5.05, 6.95]? **(C)**

(7) At a 5% significance level, which of the following statements is TRUE? **(A)**

(8) What is the 99.44% confidence interval estimator of the population mean? **(A)**

(9) For the politician what is an appropriate hypothesis test and significance level? **(E)**

(10) You have not been given enough information to complete the hypothesis test. Using the information you do have, which of the following could be a correct conclusion? **(D)**

(11) If a minimum sample size of 100 is required to obtain a 95% confidence interval estimator of the population mean that is $\overline{X} \pm 4$, the researcher is assuming that the population standard deviation is about _____. **(E)**

(12) For 10 degrees of freedom, P(t > 2) is in the range from _____. **(A)**

(13) For a one-tailed test what does it mean if the test statistic equals the critical value? **(C)**

(14) What is the 95% confidence interval estimator of μ? **(B)**

(15) A random sample of size 4 is drawn from a negatively skewed population with σ = 1. You compute the confidence interval estimator of the mean using the formula: $\overline{X} \pm z_{\alpha/2} \frac{\sigma}{\sqrt{n}}$. What can you say about the center of your estimate and its width? **(B)**