

Ch 7.3 Review

- 1 Find the critical values for a two-tailed test with $\alpha = 0.01$.
- 2 Find the critical value for a left-tailed test with $\alpha = 0.05$.
- 3 Find the critical values for a two-tailed test with $\alpha = 0.10$.
- 4 You wish to test the claim that $\mu \neq 20$ at a level of significance of $\alpha = 0.05$ and are given sample statistics $n = 35$, $\bar{x} = 19.1$, and $s = 2.7$. Compute the value of the standardized test statistic. Round your answer to two decimal places.
- 5 You wish to test the claim that $\mu \leq 25$ at a level of significance of $\alpha = 0.01$ and are given sample statistics $n = 40$, $\bar{x} = 26.8$, and $s = 4.3$. Compute the value of the standardized test statistic. Round your answer to two decimal places.
- 6 You wish to test the claim that $\mu \neq 1240$ at a level of significance of $\alpha = 0.1$ and are given sample statistics $n = 35$, $\bar{x} = 1210$ and $s = 82$. Compute the value of the standardized test statistic. Round your answer to two decimal places.
- 7 Suppose you want to test the claim that $\mu > 7.8$. Given a sample size of $n = 45$ and a level of significance of $\alpha = 0.01$, when should you reject H_0 ?
 - A) Reject H_0 if the standardized test statistic is greater than 2.33.
 - B) Reject H_0 if the standardized test statistic is greater than 2.575.
 - C) Reject H_0 if the standardized test statistic is greater than 1.645.
 - D) Reject H_0 if the standardized test statistic is greater than 1.96.
- 8 Suppose you want to test the claim that $\mu = 3.5$. Given a sample size of $n = 32$ and a level of significance of $\alpha = 0.01$, when should you reject H_0 ?
 - A) Reject H_0 if the standardized test statistic is greater than 2.575 or less than -2.575.
 - B) Reject H_0 if the standardized test statistic is greater than 2.33 or less than -2.33.
 - C) Reject H_0 if the standardized test statistic is greater than 1.645 or less than -1.645.
 - D) Reject H_0 if the standardized test statistic is greater than 1.96 or less than -1.96.

- 9 Suppose you want to test the claim that $\mu \geq 65.4$. Given a sample size of $n = 35$ and a level of significance of $\alpha = 0.05$, when should you reject H_0 ?
- A) Reject H_0 if the standardized test statistic is less than -1.645.
 - B) Reject H_0 if the standardized test is less than -2.575.
 - C) Reject H_0 if the standardized test statistic is less than -2.33.
 - D) Reject H_0 if the standardized test statistic is less than -1.96.
- 10 Test the claim that $\mu \neq 20$, given that $\alpha = 0.05$ and the sample statistics are $n = 35$, $\bar{x} = 19.1$ and $s = 2.7$.
- 11 Test the claim that $\mu \leq 25$, given that $\alpha = 0.01$ and the sample statistics are $n = 40$, $\bar{x} = 26.8$, and $s = 4.3$.
- 12 Test the claim that $\mu = 1240$, given that $\alpha = 0.01$ and the sample statistics are $n = 35$, $\bar{x} = 1210$, and $s = 82$.
- 13 A local politician, running for reelection, claims that the mean prison time for car thieves is less than the required 5 years. A sample of 80 convicted car thieves was randomly selected, and the mean length of prison time was found to be 4 years and 6 months, with a standard deviation of 1 year and 3 months. At $\alpha = 0.05$, test the politician's claim.
- 14 Suppose you are using $\alpha = 0.01$ to test the claim that $\mu \leq 25$ using a P-value. You are given the sample statistics $n = 40$, $\bar{x} = 26.8$, and $s = 4.3$. Find the P-value.
- 15 Suppose you are using $\alpha = 0.1$ to test the claim that $\mu = 1240$ using a P-value. You are given the sample statistics $n = 35$, $\bar{x} = 1210$, and $s = 82$. Find the P-value.
- 16 Given $H_0: \mu = 25$, $H_a: \mu \neq 25$, and $P = 0.021$. Do you reject or fail to reject H_0 at the 0.01 level of significance?
- A) fail to reject H_0
 - B) reject H_0
 - C) not sufficient information to decide
- Answer: A
- 17 Given $H_0: \mu \geq 18$, $H_a: \mu < 18$, and $P = 0.062$. Do you reject or fail to reject H_0 at the 0.05 level of significance?
- A) fail to reject H_0
 - B) reject H_0
 - C) not sufficient information to decide