Section 8.3 exercises, starting on page 377.

7-10, 16, 22, 24, 26. page 377-379.

7. skewness, outliers

8. sample size

9. True

10. False.

16. Let μ be the mean tuition and fee for private institutions in CA.

$H_0 : \mu = 35,000$

$H_1 : \mu \neq 35,000$

$t = \frac{37900-35000}{7200/\sqrt{14}} = 1.51.$

d.f. =13.

p-value $= 2P(t > 1.51)$ is between 0.10 and 0.20.

Do not reject H_0. There is no sufficient evidence that the mean tuition and fee for private institutions in California differs from 30,000 dollars.

22. a). The dot plot shows no strong skewness or outliers, so it is reasonable to assume the conditions are satisfied.

b). Let μ be the mean volume.

$H_0 : \mu = 12$

$H_1 : \mu \neq 12.$

From the data, we can get $\bar{x} = 12.025, s = 0.073.$

$t = \frac{12.025-12}{0.073/\sqrt{8}} = 0.97.$

d.f. =7.

p-value $= P(t > 0.97) + P(t < -0.97) = 2P(t > 0.97)$ is between 0.30 and 0.40.

Do not reject H_0. There is no sufficient evidence that the mean volume differs from 12 ounces.

26. a). Yes. The boxplot shows no strong skewness and outliers.

b). Let μ be the mean number of diners while the free dessert offer was in effect.

$H_0 : \mu = 150,$

$H_1 : \mu > 150.$

From the data, we can get $\bar{x} = 175.08, s = 28.46.$

$t = \frac{175.08-150}{28.46/\sqrt{12}} = 3.05.$

d.f. =11.

p-value $= P(t > 3.05)$ is between 0.005 and 0.01.

Reject H_0. There is evidence that the mean number of diners per day increased.