

Solutions

Each answer shows the steps, then the **result**.

2.1

- $n - 1 = 11$

2.2

- when the sample is small and the population variance is unknown

3.1 B

- The small-sample t value is larger than 1.96

3.2

(a)

- $20.5 \pm 2.365 \frac{1.2}{\sqrt{8}} = 20.5 \pm 2.365(0.4243) = 20.5 \pm 1.00; (19.5, 21.5)$

(b)

- the population is (approximately) normally distributed

3.3

- $H_0: \mu = 25, H_1: \mu \neq 25; t = \frac{25.4 - 25}{0.5/\sqrt{6}} = \frac{0.4}{0.2041} = 1.96$; compare with 2.571; since $1.96 < 2.571$, do not reject H_0 : no evidence the mean differs from 25