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A20EC 0071

Question 1

$$H_0 : \mu = 33$$

$$H_1 : \mu < 33$$

$$n = 60$$

$$\bar{x} = 32.8$$

$$\alpha = 0.01$$

$$C.V = z_{0.01} = -2.326$$

$$Z = \frac{\bar{x} - \mu_x}{s / \sqrt{n}}$$

$$= \frac{32.8 - 33}{0.85 / \sqrt{60}}$$

$$Z = -1.823$$

$$= -1.82$$

$$P\text{-value} = P(Z < -1.82) = 0.03438$$

Ans : Since $P\text{-value} > 0.01$, fail to reject H_0 . There is sufficient evidence that supports the mean is 32.8. ...

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Question 1

$$n=25$$

$$\alpha = 0.05$$

$$s = 5$$

$$H_0 : \sigma = 35$$

$$H_1 : \sigma > 35$$

(right tail)

$$\chi^2 = \frac{(n-1)s^2}{\sigma^2}$$

$$= \frac{(25-1)(5)^2}{35^2}$$

$$\chi^2 = 17.143$$

$$df = 25 - 1 = 24$$

$$\chi^2_{0.05, 24} = 36.415$$

Ans: Since $17.143 < 36.415$, fail to reject H_0 . There is no enough evidence to reject the claim.