

Sol-2

$$\sigma = 100$$

$$n = 25$$

$$\bar{x} = 520$$

Construct 80% CI about mean.

$$\text{Lower fence} = \text{Point Estimate} - \text{Margin of Error}$$

$$\text{Higher fence} = \text{Point Estimate} + \text{Margin of Error.}$$

$$\text{Significance Value} = 1 - \text{Confidence Interval}$$

$$= 1 - 0.80$$

$$\boxed{S.V(\alpha) = 0.20}$$

$$\text{Margin of Error} = Z_{\frac{\alpha}{2}} \frac{\sigma}{\sqrt{n}}$$

$$= (1.29) \frac{100}{\sqrt{25}}$$

$$z = z_{\alpha/2} = z_{\frac{0.1}{2}}$$

$$= z_{0.05} = 1.29, -1.29$$

$$\text{Lower fence} = \bar{x} - z_{\alpha/2} \frac{\sigma}{\sqrt{n}}$$

$$= 520 - (1.29) \frac{100}{\sqrt{25}}$$

$$= 520 - 25.8$$

$$\boxed{L.F = 494.2}$$

$$\text{Higher fence} = \bar{x} + z_{\alpha/2} \frac{\sigma}{\sqrt{n}}$$

$$= 520 + (1.29) \frac{100}{\sqrt{25}}$$

$$= 520 + 25.8$$

$$\boxed{H.F = 545.8}$$

80% C.I. about Mean.

