Assignment

In the Quants test of CAT exam, the population standard deviation is known to be 100. A sample of 25 test takers has a mean of 520. construct a 80% C.I about mean?

$$\sigma = 100, \quad n = 25, \quad \bar{x} = 520$$

$$C.I = 80\%$$

$$\alpha = 1 - C.I$$

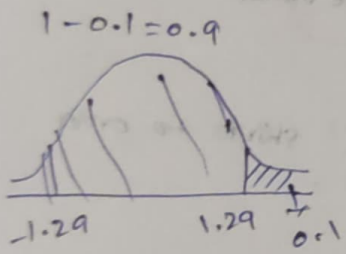
$$= 1 - 0.8$$

$$= 0.2$$

Point Estimate ± Margin of Error

$$\bar{x} \pm Z_{\alpha/2} \frac{\sigma}{\sqrt{n}}$$

$$Z_{\frac{0.2}{2}} = Z_{0.1}$$



$$\text{Lower Fence} = 520 - 1.29 \times \frac{100}{\sqrt{25}}$$

$$= 520 - 1.29 \times \frac{100}{5}^{20}$$

$$= 494.2$$

$$\text{Higher Fence} = 520 + 1.29 \times \frac{100}{\sqrt{25}}$$

$$= 545.8$$