Assignment

Qus: (2). In a quant test of the CAT Exam, the population standard deviation is known to be 100. A sample of 25 test taken has a mean of 520. Construct an 80% CI about the mean?

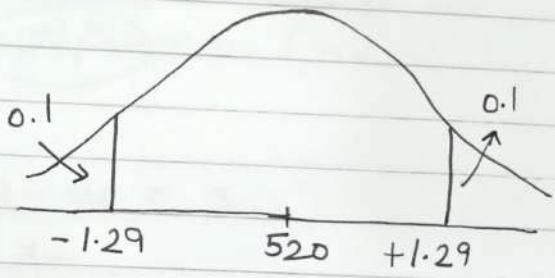
⇒

$\sigma = 100$	$n = 25$ $\bar{x} = 520$	C.I = 80% $\alpha = 1 - 80\%$ $\alpha = 0.2$

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

→ $1 - 0.1 = \underline{0.9}$

⇒ $\underline{1.29}$



⇒ Lower fence ⇒ $\bar{x} - Z_{\alpha/2}\left(\frac{\sigma}{\sqrt{n}}\right)$

$= 520 - 1.29\left(\frac{100}{\sqrt{25}}\right) = 520 - \frac{129}{5}$

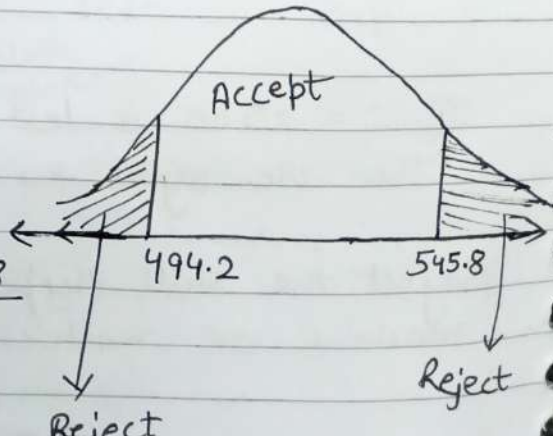
$= 520 - 25.8 = \underline{494.2}$

⇒ Higher fence ⇒

$= \bar{x} + Z_{\alpha/2}\left(\frac{\sigma}{\sqrt{n}}\right)$

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

$= 520 + 25.8 \Rightarrow \underline{545.8}$



L.F = 494.2

H.F = 545.8