Assignment

① In the quant test of CAT exam, the Population standard deviation is 100. A sample of 25 test takers has a mean of 520. Construct a 80% C.I about the mean?

$\sigma = 100 \quad n = 25 \quad \bar{x} = 520 \quad C.I = 80\%$

$\alpha = 1 - \frac{80}{100} = 0.20$

$Z_{\alpha/2} \Rightarrow Z_{\frac{0.20}{2}} \Rightarrow Z_{0.10}$

$= 1 - 0.10$

$= 0.90$

$Z_{0.10} = 1.29$

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

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

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

$= 520 - 25.8$

$= 494.2$

Higher fence $= 520 + 25.8$

$= 545.8$