

5. LB=20 UB=28

POINT ESTIMATE

$$\begin{aligned}\bar{X} &= \frac{LB+UB}{2} \\ &= \frac{20+28}{2} \\ &= \frac{48}{2} \\ \bar{X} &= 24\end{aligned}$$

MARGIN OF ERROR

$$\begin{aligned}E &= UB - \bar{X} \\ E &= 28 - 24 \\ E &= 4\end{aligned}$$

6. (BY HAND)

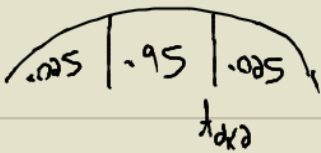
n=25

$\bar{X} = 20.2$

S=2.1

WANT: 95% C.I.

① FIND $t_{\alpha/2}$



$$\begin{aligned}DF &= n-1 \\ DF &= 25-1 \\ &= 24\end{aligned}$$

SO

$t_{\alpha/2} = 2.064$

$$\begin{aligned}\textcircled{2} \quad LB &= \bar{X} - t_{\alpha/2} \cdot \frac{S}{\sqrt{n}} \\ &= 20.2 - 2.064 \cdot \frac{2.1}{\sqrt{25}}\end{aligned}$$

$(19.33, 21.07)$

LB = 19.33

$$\begin{aligned}UB &= \bar{X} + t_{\alpha/2} \cdot \frac{S}{\sqrt{n}} \\ &= 20.2 + 2.064 \cdot \frac{2.1}{\sqrt{25}}\end{aligned}$$

UB = 21.07

6. (TI-83/84)

n=25

$\bar{X} = 20.2$

S=2.1

95% C.I.

$(19.33, 21.07)$