

8. (BY HAND) 90% C.I.

①	$X$	$X - \bar{X}$	$(X - \bar{X})^2$
	80	$80 - 88.375 = -8.375$	$(-8.375)^2 = 70.140625$
	82	$82 - 88.375 = -6.375$	$(-6.375)^2 = 40.640625$
	82	$82 - 88.375 = -6.375$	$(-6.375)^2 = 40.640625$
	84	$84 - 88.375 = -4.375$	$(-4.375)^2 = 19.140625$
	90	$90 - 88.375 = 1.625$	$(1.625)^2 = 2.640625$
	95	$95 - 88.375 = 6.625$	$(6.625)^2 = 43.890625$
	97	$97 - 88.375 = 8.625$	$(8.625)^2 = 74.390625$
	<u>97</u>	$97 - 88.375 = 8.625$	$(8.625)^2 = \underline{74.390625}$
	<u>707</u>		$\sum (X - \bar{X})^2 = 365.875$

$$\bar{X} = \frac{707}{8} = 88.375$$

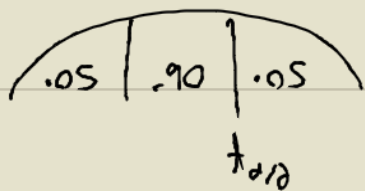
$$n = 8$$

$$S = \sqrt{\frac{\sum (X - \bar{X})^2}{n-1}}$$

$$S = \sqrt{\frac{365.875}{8-1}}$$

$$S = 7.229651246$$

② FIND  $t_{\alpha/2}$



$$DF = n - 1$$

$$DF = 8 - 1$$

$$DF = 7$$

$$t_{\alpha/2} = 1.895$$

$$\textcircled{3} \quad LB = \bar{X} - t_{\alpha/2} \cdot \frac{S}{\sqrt{n}} = 88.375 - 1.895 \cdot \frac{7.229651246}{\sqrt{8}}$$

$$LB = 83.53$$

$$UB = \bar{X} + t_{\alpha/2} \cdot \frac{S}{\sqrt{n}} = 88.375 + 1.895 \cdot \frac{7.229651246}{\sqrt{8}}$$

$$UB = 93.22$$

$$(83.53, 93.22)$$