

5.

15 18 17 13 14 16 15 13 $n=8$

90% C.I. For STD. DEV.

FIND S

X	$X - \bar{X}$	$(X - \bar{X})^2$
15	$15 - 15.125 = -.125$	$(-.125)^2 = .015625$
18	$18 - 15.125 = 2.875$	$(2.875)^2 = 8.265625$
17	$17 - 15.125 = 1.875$	$(1.875)^2 = 3.515625$
13	$13 - 15.125 = -2.125$	$(-2.125)^2 = 4.515625$
14	$14 - 15.125 = -1.125$	$(-1.125)^2 = 1.265625$
16	$16 - 15.125 = 0.875$	$(0.875)^2 = .765625$
15	$15 - 15.125 = -.125$	$(-.125)^2 = .015625$
<u>13</u>	$13 - 15.125 = -2.125$	$(-2.125)^2 = 4.515625$
121		

$$\bar{X} = \frac{121}{8} = 15.125$$

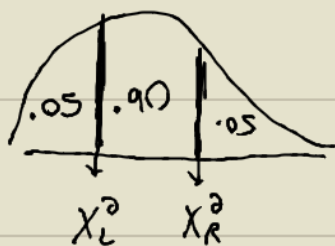
$$n = 8$$

$$\sum (X - \bar{X})^2 = 22.875$$

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

$$S = \sqrt{\frac{22.875}{8-1}}$$

$$S = 1.807721534$$

NOW CHI SQUARES

$$2.167 \quad 14.067$$

$$DF = n - 1$$

$$DF = 8 - 1 = 7$$

$$LB = \sqrt{\frac{(n-1)S^2}{X_R^2}} = \sqrt{\frac{(8-1)1.807721534^2}{14.067}} = 1.28$$

$$UB = \sqrt{\frac{(n-1)S^2}{X_L^2}} = \sqrt{\frac{(8-1)1.807721534^2}{2.167}} = 3.25$$

$$(1.28, 3.25)$$