

19-8

a) St. dev.

1.962  $\swarrow$   $df=1000$

~~1113~~  
1074

b)  $2169 \pm 1.965 \cdot \frac{1600}{\sqrt{1074}}$

(2109.1, 2228.9)

$t^*$  for 1073=df  
(used  $df=1000$ )

$$\bar{x} \pm t^* \frac{s}{\sqrt{n}}$$

I am 95% conf. the mean c.c. balance of all undergrads w/ a c.c. is between \$2109 and \$2229.

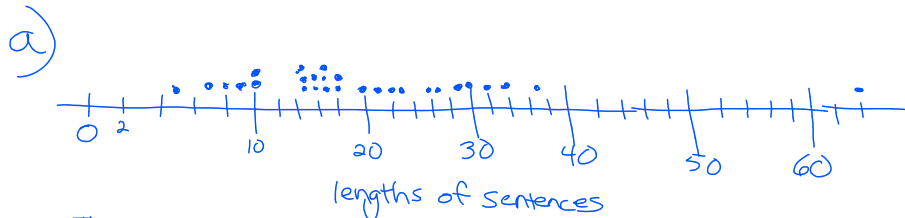
c) No  $\rightarrow$  est. the mean not individual amts.

d) (2049.3, 2228.7)

e)  $S_x = 2000$  (larger  $S =$  wider int.)

f) \$1000  $\rightarrow$  \$2000 sounds too large w/ a  $\bar{x} = 2169$ .

19-14  
 Enter data into  $L_1$  / Do 1-Var stats  
 to get  $\bar{x}$  and  $S_x$ .



The graph of the # of words per sentence is skewed right.  
 The median # of words is 16.5, and ranges from  
 5 to 64 words/sentence, with 64 looking  
 like an outlier.

b)  $\bar{x} = 20.5$   $S_x = 12$   $n = 28$   
 $df = 27$

$$20.5 \pm 2.052 \left( \frac{12}{\sqrt{28}} \right)$$

$t_{27}^*$  ↑

$$(15.85, 25.15)$$

c)  $n \geq 30$  or pop. is normal

$n = 28 < 30$

Based on the graph of this sample (skewed right + outlier)  
 I don't think it's safe to assume  
 that the pop. is normal.

⇒ Don't think the cond. are satisfactorily met.

d)  $18.89 \pm 2.056 \left( \frac{8.6}{\sqrt{27}} \right)$

$t_{26}^*$  ↑

$$(15.49, 22.29)$$

Removing the outlier lowered the  
 values of the interval.