IA CRITERION E:
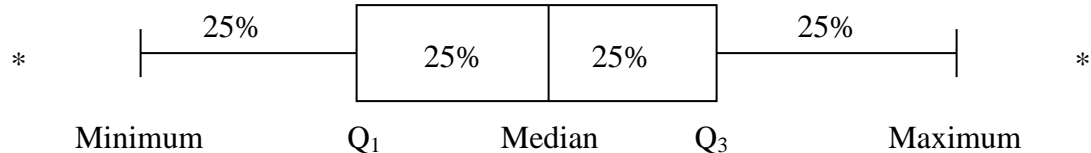### Descriptive Statistics

1) **Clearly and accurately state the results which reflect the hypotheses of the research.**

2) **Apply one measure of central tendency (mean or median) and one measure of dispersion (standard deviation or IQR) and explain their use.**

USING A TI-84 GRAPHING CALCULATOR

- Type data into list(s) and check for outliers using a *modified box plot*

  STAT PLOT → ENTER → CHOOSE MBP ICON → CHOOSE LIST → ZOOM → 9

*   25%   25%   25%   25%   *

Minimum Q_1 Median Q_3 Maximum

- Remove any outliers and calculate descriptive statistics

  STAT → CALC → 1-Var Stats → L_1, L_2 … → ENTER

  Your analysis will look like this:

  $\bar{x} = 83.85$ } **Use if data symmetric**
  $\sum x = 50.31$
  $\sum x^2 = 574825$
  Sx = 50. 91961928 } **Use if data symmetric; use IQR if data skewed**
  $\sigma x = 50.49350618$
  $n = 60$
  $minX = 3$
  $Q_1 = 44.5$
  Med = 75.5 } **Use If data skewed**
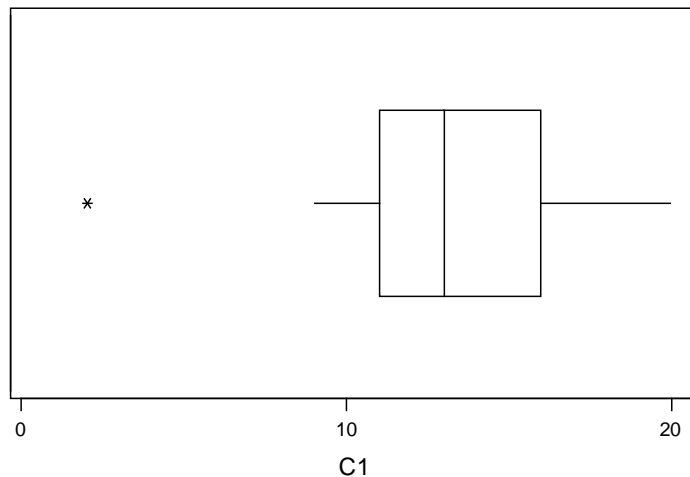 $Q_3 = 114.5$
  $maxX = 18530$

USING MINITAB

- Open Minitab Software

    start → Programs → Minitab Student 12

- Type data into list(s); name the list(s)

- Check for outliers using a modified box plot

    Graph → Boxplot → Options (Transpose X and Y)

- Remove outlier(s) from list and calculate descriptive statistics

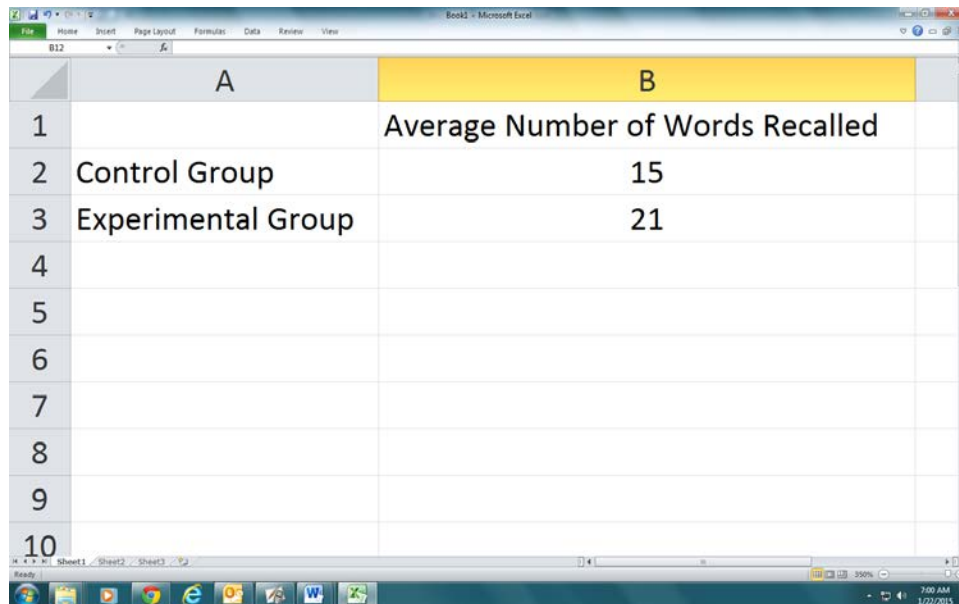   Stat → Basic Statistics → Display Descriptive Statistics

- Copy and Paste Results:

Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SE Mean
Test Scores	20	23.650	23.000	23.556	2.907	0.650

Variable	Minimum	Maximum	Q1	Q3
Test Scores	20.000	29.000	21.000	26.000

3) **Accurately and clearly graph the results directly relevant to the hypotheses of the study (in appendices)**
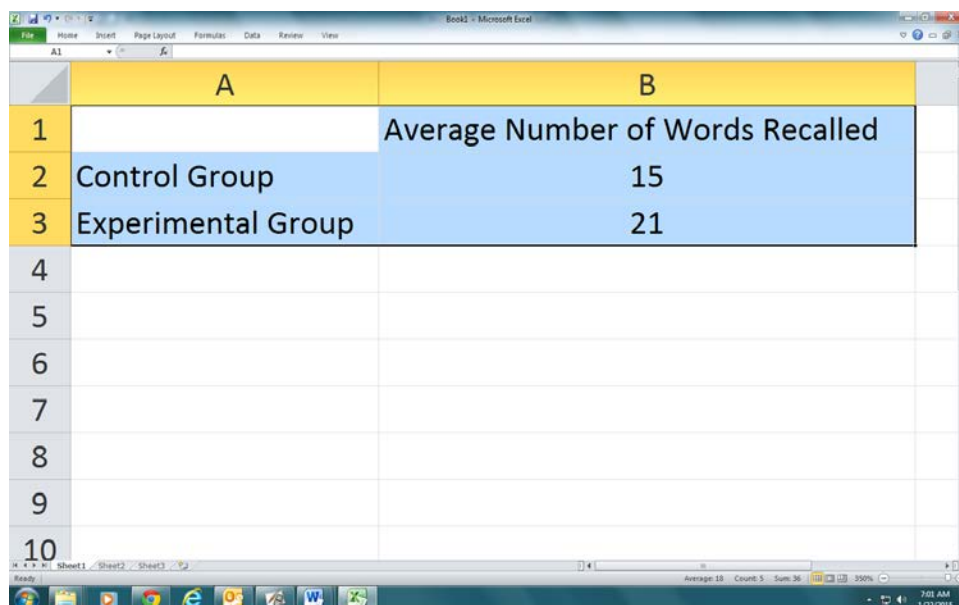
USING EXCEL

- Layout information in worksheet

- Highlight information

- Insert $\longrightarrow$ Desired Chart (Bar Graph, Pie Chart etc)
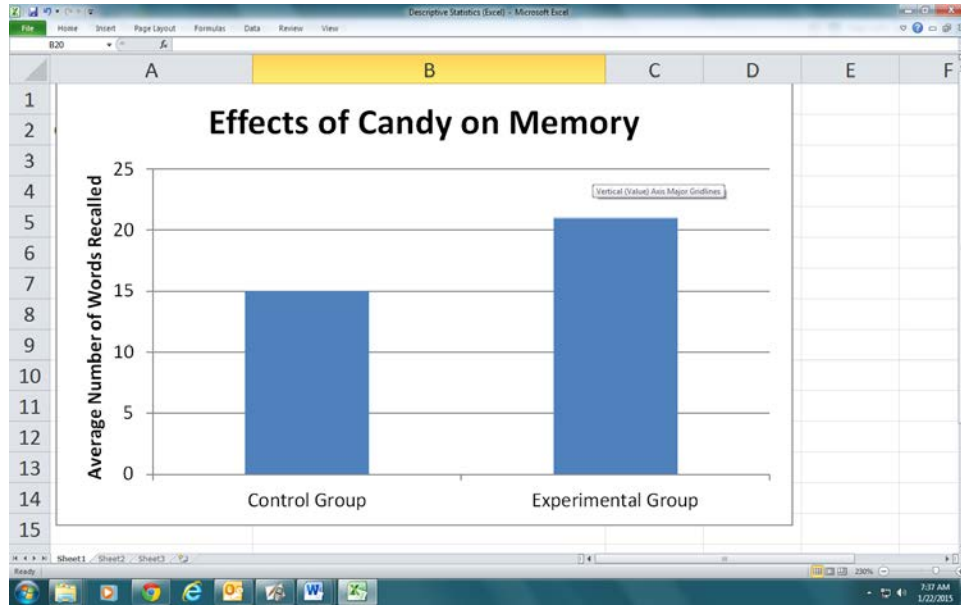
- Use "Chart Tools" to modify as desired; be sure to appropriately label/scale axes and include a title

- Copy and paste graph(s); reformat size as needed

4)   **Present results in tabular form (in appendices)**

Number of Words Recalled	
Control Group Volunteers	**Experimental Group Volunteers**
15	17
12	20
18	23
13	12
16	15