## Day 3 Notes: Determining Outliers and Box plots

\*REMINDER: To use the program Backpack data, hit the Prgm button on your calculator and then choose the backpack program and hit enter. Then, hit stat-> edit to see the data and stat->Calc -> 1 Var Stats -> Enter to get the 5# summary

To determine an outlier: (Using the backpack data on your calculator)

1. Find the 5# summary (For the backpack data) Minimum (Min)=3  $1^{st}$  quartile (Q<sub>1</sub>)=7 Median (Med)=9  $3^{rd}$  quartile (Q<sub>3</sub>)=10 Maximum (Max)=33

Example:  $X \times X \times X \times X \times X \times X \times X$  $Q_1 \quad Med \quad Q_3$ 

- Find the Inner Quartile Range (IQR)= Q<sub>3</sub>-Q<sub>1</sub> Ex. 10-7=3
- 3. <u>Multiply the IQR by 1.5</u> Ex. 3\*1.5=4.5
- Add # to Q<sub>3</sub>, subtract # from Q<sub>1</sub>
  "Range of good data"
  Ex. 7-4.5=2.5, 10+4.5= 14.5
  Therefore, any backpack between 2.5 and 14.5 pounds is good. If a backpack is outside of this range, then it is considered an outlier.
- 5. <u>State the outliers.</u> Ex. 15,15,16,17,20,33

## **Boxplots:**

<u>To view a boxplot on the calculator</u>: Hit  $2^{nd}$ , y=, press enter. Turn plot on by pressing enter. Then, for the type choose the boxplot with outliers. Then, press zoom 9, and look at the graph.