DATA-PALOOZA

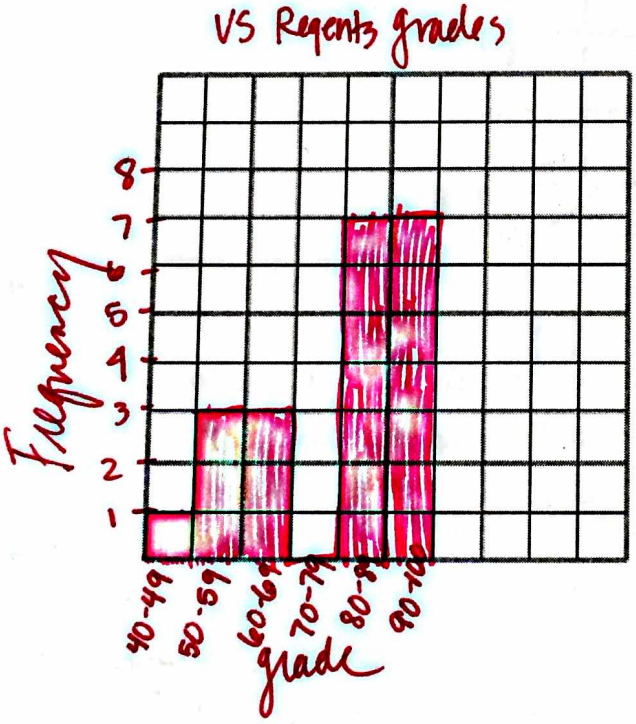
Key

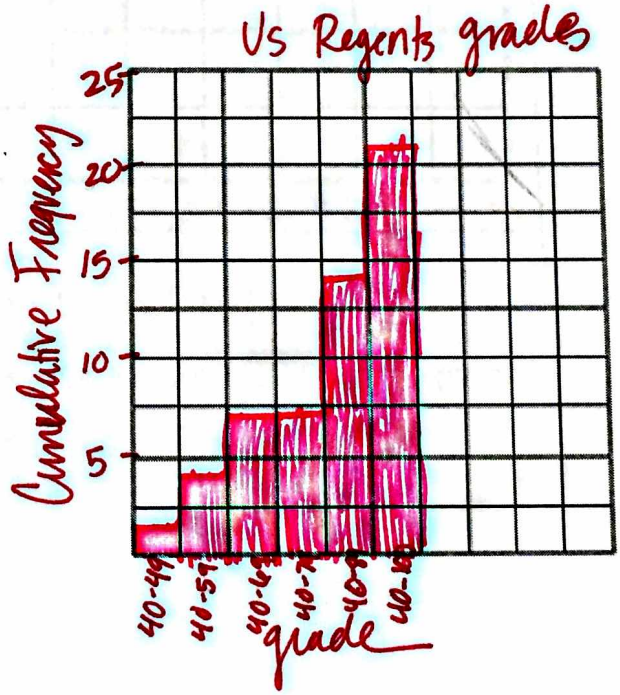
HISTOGRAMS

a. The following data are the scores for the freshmen's US History Regents Scores. Fill in the table and make a FREQUENCY HISTORGRAM and a CUMULATIVE FREQUENCY HISTOGRAM Be Sure to label and title your graphs!!

{68, 83, 90, 92, 81, 80, 61, 53, 98, 42, 85, 82, 90, 93, 58, 93, 67, 81, 89, 93, 55,}

Grade	Tally	Freq.	Cum. Fq.
40-49	I	1	1
50-59	III	3	4
60-69	III	3	7
70-79		0	7
80-89	IIII II	7	14
90-100	IIII II	7	21





b. Which 9 point interval has the highest frequency?

80-89 and 90-100 both have 7.

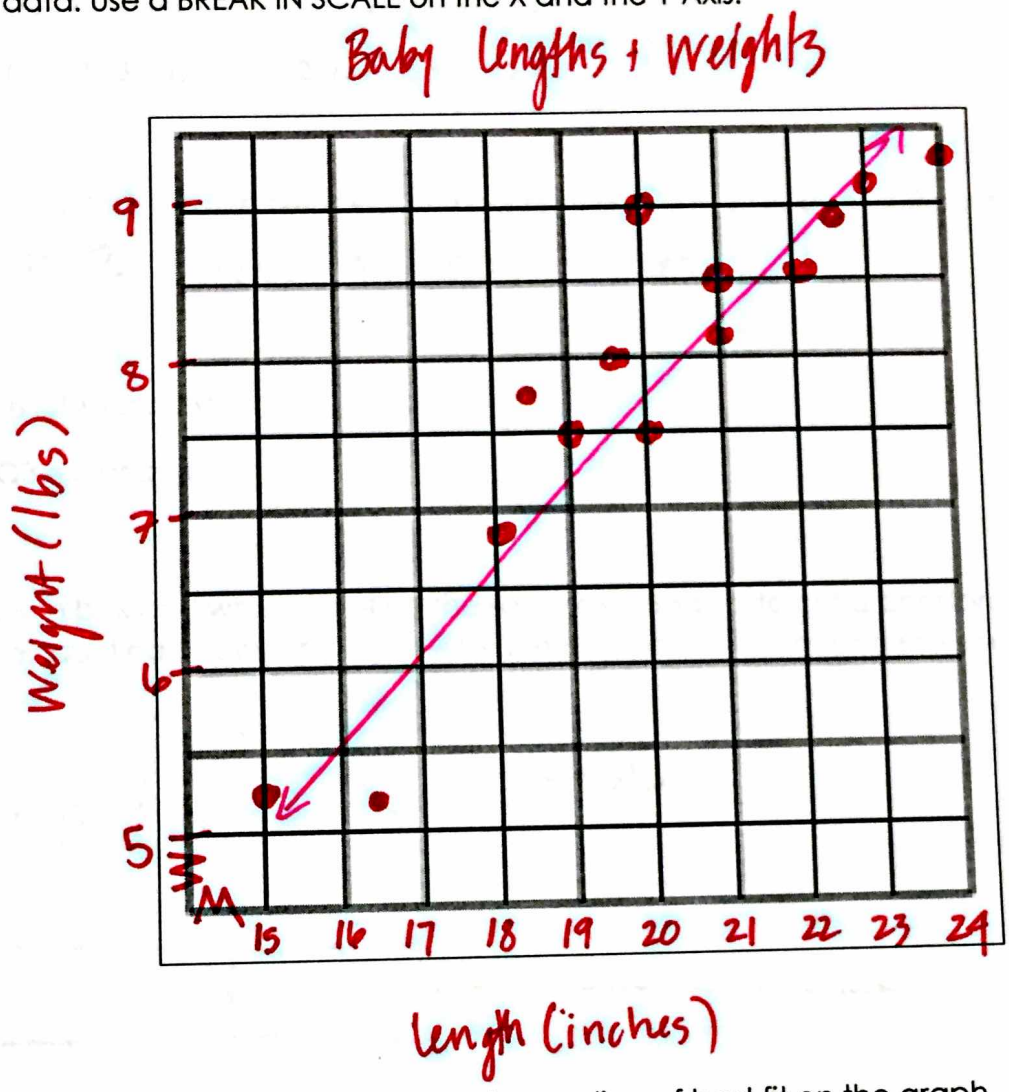
c. Which graph do you think is a clearer representation of how the students did on the regents?

The frequency histogram gives a clearer picture of the data - you don't have to break it apart to see individual interval values.

erplots

a. The following data shows the lengths (inches) and weights (pounds) of newborn babies. Create a SCATTERPLOT of the data. Use a BREAK IN SCALE on the X and the Y Axis.

Length	Weight
21	8.5
18.5	7.8
20	7.5
22	8.5
19	7.5
21	8.2
20	9.0
22.5	8.9
19.5	8.0
16.5	5.2
18	6.9
15	5.3
24	9.3
23	9.1



b. Use your calculator to run a linear regression. Draw in your line of best fit on the graph.

Equation of Regression: $y = 0.473x - 1.62$

Correlation coefficient r= .92

c. What does the r-value say about your data?

There is strong correlation.

d. Use your regression equation to determine the approximate weight of a baby that is 20 inches long

about 7.84 lbs

e. Use your regression equation to determine the approximate length of a baby that is 7 lbs.

about 185 inches

ox and Whisker Plot

The following data are the number of runs scored by the Varsity Baseball team last season:

{0, 8, 5, 3, 11, 7, 9, 4, 2, 1, 7, 0, 5, 8, 12, 3, 1, 4, 7, 3, 0, 5}

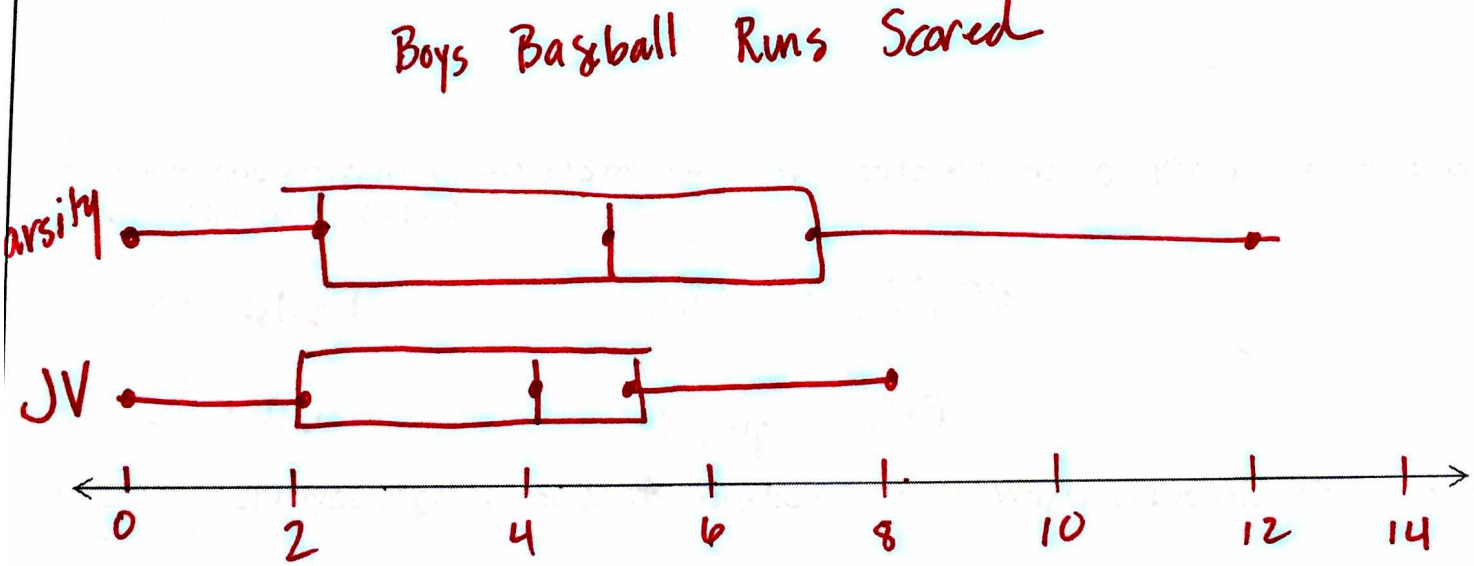
a. Use your calculator to find the five number summary for the varsity data and list them below:

Min: 0 Q1: 2 Med: 4.5 Q3: 7 Max: 12

The 5NS for the JV team is listed below:

Min: 0 Q1= 2 Med = 4 Q3 = 5 and Max = 8

b. Create a comparison box and whisker plot on the same axis. Be sure to put a constant scale on the number line, label each box and whisker for the appropriate team and title your graph.



c. What does your graph tell you about the Varsity and the JV teams?

The varsity team scores more runs, but sometimes they score the same.

d. What is the IQR for the Varsity team? 7-2=5

e. In what percent of the games did the JV team score less than 4 runs? 50%

f. In what percent of the games did the JV team score more than 5 runs? 25%

e following data is the number of minutes students spend each night doing homework:

{30, 15, 45, 60, 90, 45, 60, 30, 40, 20, 60, 20, 15, 45, 20, 180, 50, 60, 45, 20, 30}

(15, 15, 20, 20, 20, 20, 30, 30, 30, 40, 45, 45, 45, 45, 50, 60, 60, 60, 60, 90, 180)

a. Find the MCT for the data set.

Mean = $\frac{980}{21}$ = 46.67 Mode = 20, 45, 60

Med = 45 Range: 165

b. Which MCT value do you think best represents the data? Explain why.

The median b/c 180 is an outlier.

c. If everyone was given an extra 15 minute survey to do for HW one night (the data is shifted) what would the new MCT be?

Mean: 61.67 mode: 35, 60, 75

med: 60 Range = 165

d. Describe one type of graph you could make from this data. Why would you make that type of graph?

You could make a histogram or Box + Whisker plot - either of those types can be made with univariate data.