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9/22/20

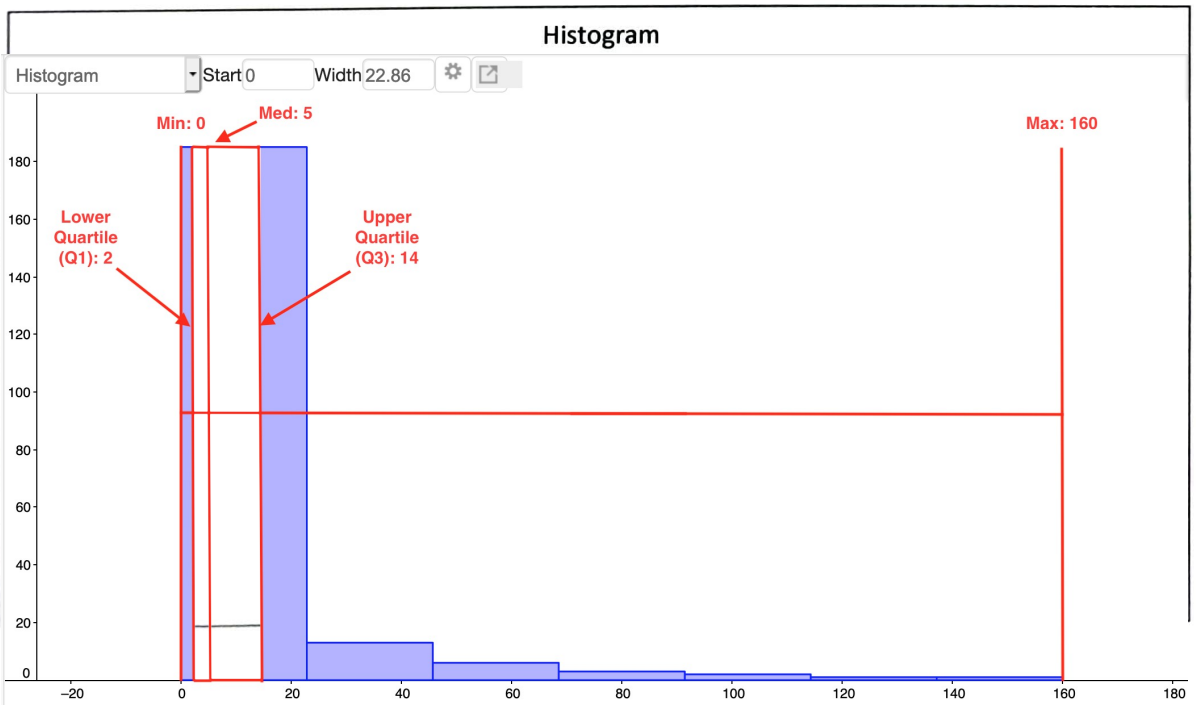
Math 18
Test #1
Fukumoto

1. Social website hours per week for California 12th grades (both male and female):
https://www.geogebra.org/classic/cukyv2g8

a. Using the data, fill in the following table using EXACTLY 7 CLASSES:

~~Miles per gallon~~	~~Frequency~~ Interval	~~Relative~~ Frequency	~~Cumulative~~ Relative Frequency	Comulative Relative Frequency
	0-22.86	185	.88	.88
	22.86-45.72	13	.06	.94
	45.72-68.58	6	.03	.97
	68.58-91.44	3	.01	.98
	91.44-114.3	2	.01	.99
	114.3-137.16	1	0	1
	137.16-160.02	1	0	1

b. Graph the **frequency histogram** and overlay a **box-plot** on it. **Scale the x-axis**. Label all the important point on the box-plot.



c. Which number represents the 88th percentile?

.88 x 211 = 185.68

186th number

d. What number represents the 40th percentile?

.40 x 211 = 84th number

e. Using the correct symbols, what are the mean and standard deviation of the histogram?

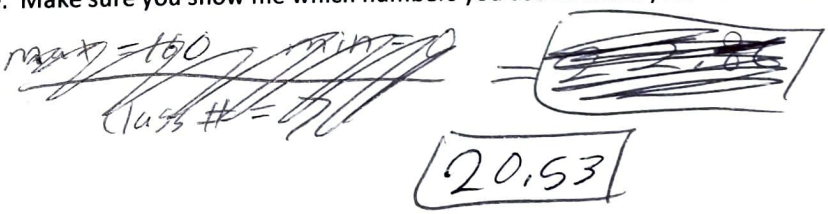
$\bar{X} = 12.3175$

$\sigma = 20.5309$

f. What number represents the 97th percentile?

.97 x 211 = 205th number

g. Calculate a "normal" range (one standard deviation) for the number of hours on a social website. Make sure you show me which numbers you use to make your calculation.



20.53

h. How many standard deviations away is 53 from the mean? Would 53 be a "normal" value? Why or why not?

1 standard deviation

No, it would be an outlier.

i. How many standard deviations away is 12 from the mean? Would 12 be a "normal" value? Why or why not?

0 Standard deviations

Yes, because it is within 1 Standard deviation