AP Statistics – Study Tips for Chapter 1 Test

1) Practice Problems – know how to do #'s 25, 45, 53, 105
2) See handout on "Conditional vs Marginal Distribution Extra Examples"
3) **Check Your Understanding** – use the data from #91(pg71) to answer the following questions:

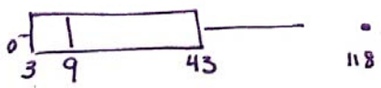
Find 5-number summary; Label with appropriate variable notations.

MIN = 0
Q1 = 3
M = 9
Q3 = 43
MAX = 118

Find the mean, standard deviation, and sample size for these data. Label with appropriate variable notations.

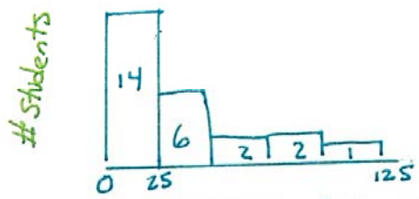
$\bar{x} = 27.5$
$s_x = s = 34.2$
$n = 25$

Draw a boxplot. Provide labels and scale.



TEXTS PER DAY

Construct a histogram for this distribution. Choose an appropriate bin width. Provide labels and scale.



TEXTS PER DAY

Use IQR to determine if this distribution has any outliers. Clearly show your work.

IQR = Q3 − Q1 = 43 − 3 = 40

LB: Q1 − 1.5IQR = 3 − 1.5(40) = −57

NO OUTLIER

UB: Q3 + 1.5 IQR = 43 + 1.5(40) = 103

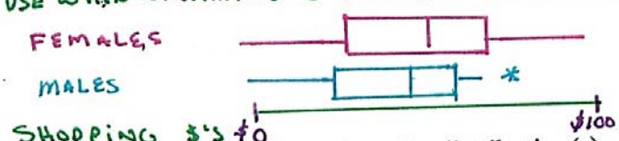
OUTLIER(S): 118

Describe the distribution.
Tip: remember CUSS and BS.

THE DISTRIBUTION OF TEXTS SENT PER DAY BY THESE AP STATS STUDENTS IS SKEWED RIGHT, WITH THE CENTER AROUND 9 (MEDIAN), AND THE SPREAD FOR THE MIDDLE 50% IS ABOUT 40 (IQR). THERE IS ALSO AN OUTLIER WITH 1 STUDENT SENDING 118 TEXTS PER DAY.

When do use parallel boxplots. Sketch an example.

USE WHEN COMPARING 2 DISTRIBUTIONS (SAMPLES)



What is required when describing the distribution(s) from this graph? CUSS AND BS COMPARING 2 SAMPLE –

① NUMBERS NOT NEEDED
② MUST COMPARE CENTER, SHAPE, SPREAD AND UNUSUAL (OUTLIERS, GAPS) FOR BOTH GRPS (IE THE CENTER FOR FEMALE SHOPPERS IS SLIGHTY HIGHER THAN MALES (MEDIAN))

What numerical measures of center and spread would be best to use for this distribution? Explain your choice.

SINCE THIS DISTRIBUTION IS SKEWED, WE SHOULD USE:

MEDIAN FOR CENTER AND IQR FOR SPREAD.

QUESTION: DOES THIS DATA SUPPORT THE CLAIM BY THE NIELSON STUDY?

FIRST TO COMPARE NIELSON STUDY AND THIS SAMPLE, WE NEED TO CONVERT THE MONTHLY TEXTS TO DAILY. THEREFORE THE STUDY'S DAILY TEXTS IS ABOUT 58 (1742/30).

BASED ON THESE SAMPLE RESULTS, THE CLAIM OF 58 TEXTS/DAY SEEMS VERY HIGH. THIS IS MUCH HIGHER THAN OUR SURVEY'S MEAN (27.5) AND MEDIAN (9). IN FACT, NIELSON'S 58 TEXT/DAY FALLS IN OUR SAMPLE 3RD QUARTILE WITH ONLY 4 OF THE 25 STUDENTS TEXTING ABOVE 58/DAY.