AP Statistics Summer Review – Show all work for full credit.   Name _____

This work packet and book assignment is due the second class. This will provide you with time to ask me any clarifying questions if needed.
For Part II, you will need to sign out a textbook – please do so before you leave for the summer.

Email me with any questions, Mr. Barresi, jbarresi@oratoryprep.org.

19 possible points

Part I - Math Prerequisite Topics - Solve each. Show ALL work for full credit.

1) $\frac{1}{2}x^2 - 8 = 0$ (1pt)

2) $\frac{x}{12} + \frac{5}{6} = \frac{5}{24}$ (1.5pts)

3) $x^2 - 8x + 7 = 0$ (1.5pts)

4) $2\sqrt{x} + 9 = 21$ (1pt)

5) $\sqrt{2x + 10} = x + 1$ (2pts)

6) $\log_3 81 = x$ (1pt)

7) $\log_3 x = 5$ (1pt)

8) $\log_x \frac{1}{64} = -3$ (1.5pts)

9) $\log_2(x+1) = 5$ (1.5pts)

10) $2^x = 128$ (1pt)

11) $-4(3)^x = -108$ (1pt)

12) $5(2)^{3x} - 4 = 13$ (2pts)

13) What is the difference between a combination and a permutation? Explain and show an example of each.
*You may need to research this online if you did not review this in Algebra 2. (3pts)

Part II – Exploring Data, Chapter 1 from our textbook

Read through Chapter 1 in the *Practice of Statistics* textbook, Page 4-72. You will receive an email with the textbook provided in a PDF as well some notes.

First familiarize yourself with the way the textbook is laid out.
There are figures, examples, tables, activities, and exercises. All are numbered. What often confuses students is that there may be a Table 1.2, a Figure 1.2, and an Exercise 1.2 and they might be unrelated and on different pages in the book. Please also note that the notation 1.4 (four) is different than 1.40 (forty).

You are responsible for understanding all of the following key words:
Individuals
Variable
- Categorical (aka Qualitative)
- Quantitative (aka Numerical)

Case
Distribution
Count
Percent
Center
- mean
- median
- mode

Spread
- range
- quartiles
- interquartile range (IQR)
- variance
- standard deviation (and properties on page 51)

Shape
- rectangular
- bimodal
- tri-modal
- bell-shaped
- "approximately normal"
- symmetric
- skewed to the left (lower values)
- skewed to the right (higher values)

Outlier
- what an outlier looks like
- how to calculate if something actually *is* one

Percentile
Creating a frequency table
Roundoff error
Trend
Seasonal variation
Resistant measure
Degrees of freedom
Linear transformation

Know how to read and construct each of the following: (Also, know when each is appropriate to use.)
- Pie Chart
- Bar Chart (also look up Pareto Chart online and see how it differs)
- Dot Plot (aka Number Line Plot)
- Stem and Leaf Plot (aka Stem Plot)
- Back to Back Stem and Leaf Plot
- Histogram (and how it differs from a bar chart)
- Ogive (aka Relative Cumulative Frequency Graph)
- Time Plot
- Box and Whisker Plot (aka Boxplot)
- Side by Side Box and Whisker Plot
- Modified Boxplot (shows outliers)
- Technology Toolboxes (make sure you are competent with Lists, 1-Var Stats, Histograms, Bar Charts, & Box Plots).

Problems to be completed: 1.1, 1.3, 1.5, 1.9, 1.17, 1.19, 1.29, 1.31, 1.33, 1.39, 1.45, 1.55, 1.57, 1.66, 1.67, 1.80, 1.85, 1.90, 1.94, 1.105
These problems will be collected upon your return on the first day of classes, along with Part 1.
I will share with you the Chapter 1 Text, Power Point and Notes.
We will have our first assessment on Chapter 1 soon after school starts (probably the second or third class). Be prepared!

Please feel free to email me with any questions or comments over the summer.