Stat 2470, Quiz #2, Spring 2014   Name _____**KEY**_____

Instructions: Show all work. You may use your calculator rather than compute formulas by hand, but if you do, 'show work' by saying which program you used to obtain the result and what information you entered. Round measures of center to one decimal place more than the data, and variance/standard deviation to two decimal places more than the original data.

1. For the data shown below, calculate the following:
   a. The mean   142.7

   b. The median   119

   c. The variance   9644.06
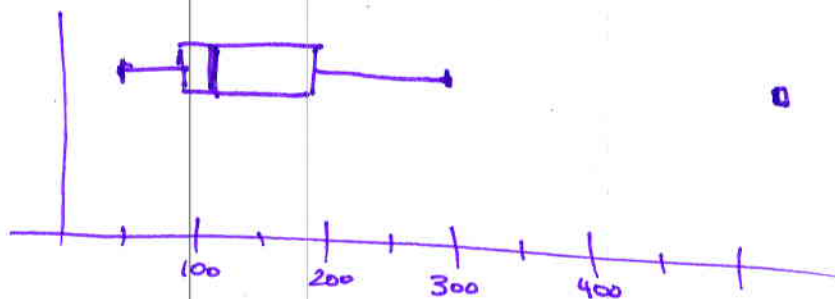
   d. The standard deviation   98.20

   e. The five number summary (Min, Q1, Median, Q3, Max)   30, 87, 119, 182, 511

   f. Use the results of (e) to sketch a box plot for the data. Label your graph with an appropriate scale. Use the box plot graph in your calculator to locate any outliers in the data.

PPM of aluminum measured in samples of plastics: 30, 30, 60, 63, 70, 79, 87, 90, 101, 102, 115, 118, 119, 119, 120, 125, 140, 145, 172, 182, 183, 191, 222, 244, 291, 511

511 is the outlier

2. Suppose that you are flipping ten fair coins. Find the following:
   a. The number of simple events in the sample space.

   1024

   b. The number of simple events in the sample space with exactly two heads.

   $\binom{10}{2} = 45$

   c. Assuming that each simple event is equally likely, what is the probability of obtaining exactly two heads in ten coin flips?

   $\frac{45}{1024} \approx .0439$ or 4.39%