Stat 1350, Quiz #7, Spring 2015 Name KEY

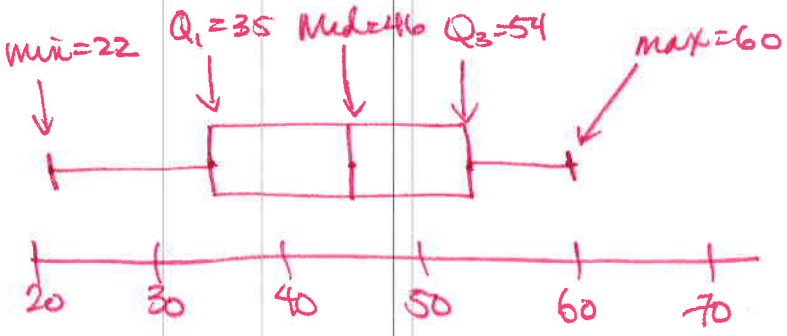
Instructions: Answer each question completely. Show all work for any computational questions.

1. Data below is for the number of home runs hit by Babe Ruth in each year of his career. Make a stemplot of the data.

54	59	35	41	46	25	47	60
54	46	49	46	41	34	22	

Use this data to draw a box plot. Be sure to clearly label your axes, and each number in your 5-number summary (min, first quartile, the median, the third quartile, and max).

min = 22
Q_1 = 35
Med = 46
Q_3 = 54
Max = 60



2. Find the mean and the standard deviation of the data above. You may use your calculator to find them.

1 Var Stats

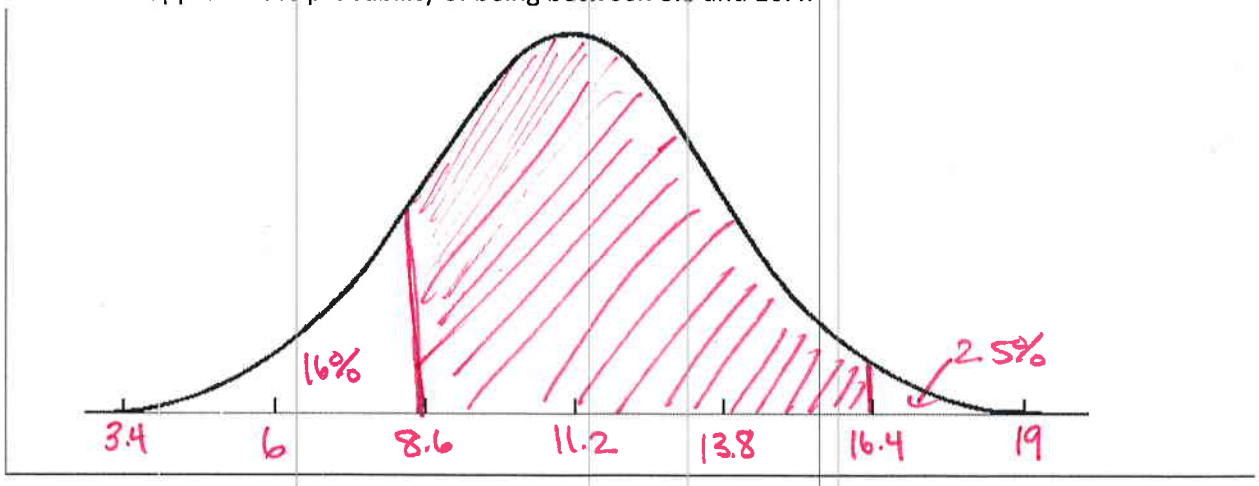
$\bar{x} = 43.93$ $S_x = s = 11.247$

3. What does the standard deviation measure?

the variability of the data -
how close to or far from the data will fall

4. Which of the following are not possible values for a standard deviation? Circle all that apply.
   a. $s = 0$ ok if all values are the same
   b. $s = 145$ ok big is fine
   c. $s = -1.6$ X not possible s cannot be negative
   d. $s = 0.0081$ ok small is also fine

5. On the graph of the normal distribution below, graph a mean of 11.2. Plot several increments of the standard deviation equal to 2.6 on either side of the mean. Use the 68-95-99.7 rule to find the approximate probability of being between 8.6 and 16.4.



$\frac{100-68}{2} = 16$

$\frac{100-95}{2} =$

16% + 2.5% = 18.5% left out

thus 100 − 18.5 = 81.5% inside

or use normalcdf (8.6, 16.4, 11.2, 2.6) = .81859...

81.86%