Student Solution

9/12/05
Dr. Lunsford

MATH 271
Applied Stats

Student Solution

Excellent!

The single-season home run record is now held by Barry Bonds of the San Francisco Giants, who hit 73 in 2001. Below are Barry Bonds home run totals from 1986 (his first year) through 2003. For your convenience, I have placed the data in order of homerun magnitude, not year. Please answer the following questions.

16 19 24 25 25 33 33 34 34 37 37 40 42 45 46 46 49 73

(a) Make a stem and leaf plot of these data. (4 points)

Stem	Leaf
1	6 9
2	4 5 5
3	3 3 4 4 7 7
4	0 2 5 6 6 9
5	
6	
7	3

+4

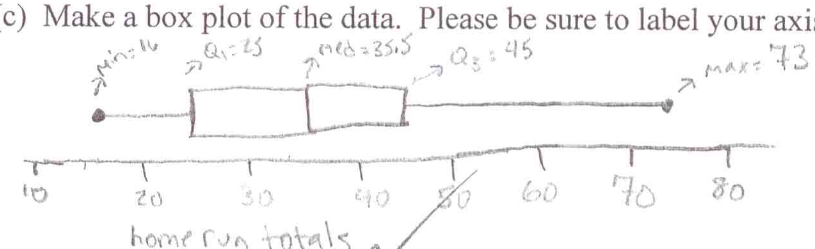
(b) Give the mean, standard deviation, and 5 number summary of these data. Clearly indicate your answers. (6 points)

mean - 36.5̄
std. dev. - 13.21

Min. - 16
med. - 35.5
max - 73
$Q_1 = 25$
$Q_3 = 45$

+6

(c) Make a box plot of the data. Please be sure to label your axis. (5 points)



+5

(d) Describe the general shape of this data. What do you notice about Bonds's record year? (2 points)

The data is skewed right and has an extreme outlier of 73 during his record year.

+2

(e) How do Bonds's career mean and median number of home runs change when we drop the record 73? What general fact about the mean and median does this result illustrate? (3 points)

When you drop the record 73 the mean changes to 34.4 and the median drops to 34. This shows that the mean changes considerable when there are outliers present while the median is not affected as much

+3

The mean is generally more sensitive to outlying data points than the median.