Math 153 - Quiz 3
September 17, 2015

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (2 points) Give an example of a data set with five elements whose mean is 5 and standard deviation is 0.

ALL VALUES ARE THE SAME!

$\{5, 5, 5, 5, 5\}$

2. (5 points) Sammy Sosa was a major league baseball player from 1989 to 2007. His numbers of yearly regular season home runs are shown below in the order in which they occurred.

4	15	10	8	33	25	36	40	36
66	63	50	64	49	40	35	14	21

Compute the sample standard deviation. Then determine if any of Sosa's numbers of home runs were unusual.

CALCULATOR...

$s \approx 19.54$

$\bar{x} = 33.8\overline{3}$

$\bar{x} - 2s \approx -5.25$

$\bar{x} + 2s \approx 72.91$

$\Rightarrow$ NONE OF HIS NUMBERS IS UNUSUAL.

3. (3 points) In a large group of people, the adult men had a mean height of 68.9 in with a standard deviation of 2.8 in. The adult women had mean height 63.8 in with standard deviation 2.5 in. Compute the coefficients of variation (CV). Which group had more variation in heights?

MEN:

$\frac{2.8}{68.9} \approx 4.1\%$

WOMEN:

$\frac{2.5}{63.8} \approx 3.9\%$

THE MEN HAD SLIGHTLY MORE VARIATION.