

## Math 115 - Quiz 4

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September 25, 2014

Name key

Score \_\_\_\_\_

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

1. (3 points) A test has mean score 68.5 and standard deviation 6.4. What numbers are the cutoffs for unusually low and high scores? Is 85 an unusually high score?

$$\text{Unusually Low: } 68.5 - 2(6.4) = 55.7$$

$$\text{Unusually High: } 68.5 + 2(6.4) = 81.3$$

Yes, 85 is unusually high.

2. (4 points) Do Problem #46 on page 98. Is there more variation in the males' scores or the females' scores?

### MALE SCORES:

$$\bar{X} = 1642.5$$

$$S = 341.67$$

### FEMALE SCORES:

$$\bar{X} = 1710$$

$$S = 302.51$$

$$CV_{\text{MALES}} = \frac{s}{x} \approx 20.8\%$$

$$CV_{\text{FEMALES}} = \frac{S}{\bar{X}} \approx 17.7\%$$

THERE IS MORE VARIATION IN  
THE MALES' SCORES

3. (3 points) Compute the five-number summary and the interquartile range. Do this first by hand, then use your calculator to check your quartiles.

~~36, 41, 39, 15, 48, 34, 28, 25, 28, 19, 18, 50, 27, 53~~

$$\begin{array}{c}
 \text{Lower} \\
 \text{HALF} \\
 \hline
 15, 18, 19, 25, 27, 28, 28, 34, 36, 39, 41, 48, 50, 53 \\
 \downarrow \\
 Q_1 = 25
 \end{array}
 \quad
 \begin{array}{c}
 \text{Upper} \\
 \text{HALF} \\
 \hline
 34, 36, 39, 41, 48, 50, 53 \\
 \downarrow \\
 Q_3 = 41
 \end{array}$$

$$M_{IN} = 15, \quad Q_1 = 25, \quad M_{EO} = 31, \quad Q_3 = 41, \quad M_{AX} = 53$$

$$IQR = 41 - 25 = 16$$

 CHECKS OUT  
ON TI-84