

COMPARING POPULATIONS ^{#83}

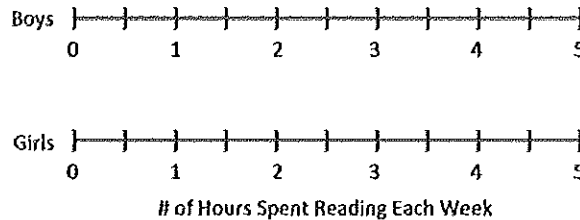
Name: _____

Practice

1. Mrs. Jenkin's 7th grade class is trying to determine whether boys or girls at the middle school level spend more time reading outside of school each week. A random sample of boys and girls was taken. The data is shown below.

# of Hours Spent Reading Outside of School Each Week															
Boys	1	0	1.5	2	1	5	3	0	1.5	2	2.5	0	1	1	1
Girls	2	4	1.5	2	1.5	3.5	4	3.5	2.5	2	2.5	1	2	2.5	3

a. Plot these values on the graphs below. *Use a dot plot.*



b. Describe the shape and variability for each graph.

c. Find the sample mean for boys and girls.

Boys' mean = _____

Girls' mean = _____

d. Calculate the mean absolute deviation for boys and girls.

Boys' MAD = _____

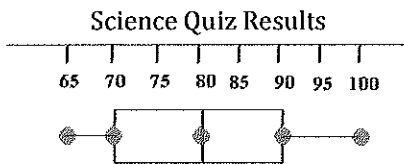
Girls' MAD = _____

e. Find the number of MADs that separate the two sample means using the formula below. Is there a difference in sample means that is meaningful? What can you conclude about the hours spent reading by both boys and girls?

$$\frac{\text{difference of the means}}{\text{the larger MAD}} =$$

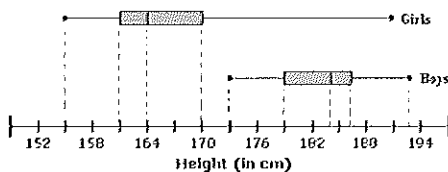
box-and-whisker Plots

2) The box-and-whisker plot below shows the quiz scores of Mr. Bell's 4th period science class. Use the plot to answer the following questions:



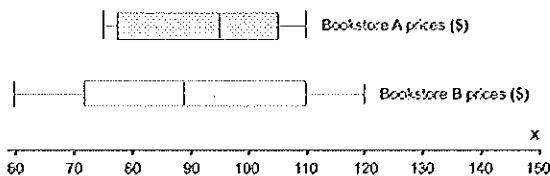
- What was the median score?
- What percent of the students scored between a 70 and a 90?
- What was the lowest score on the quiz?
- If 8 kids scored between a 65 and 70, how many kids took the quiz?
- What is the range of the data?
- What is the inner-quartile range of the data?

3) The box-and-whisker plots below show the heights of girls and boys in a PE class. Use the plots to answer the following questions:



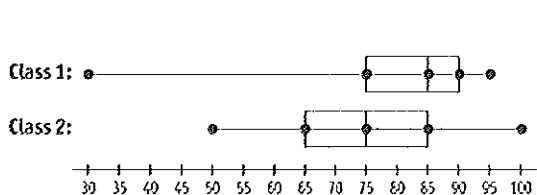
- Who has a greater measure of center?
- Who has a greater amount of variability/variation?
- What percent of the girls are less than 170 cm?
- What percent of the boys are less than 179 cm?
- If 12 girls are greater than 170cm, how many girls are in the class?
- About how much greater is the median for the boys than for the girls?

4) The box-and-whisker plots below compare the prices of books at two different bookstores. Use the plots to answer the following questions:



- Which store has a greater inner-quartile range?
- Which bookstore has a greater measure of center?
- Which bookstore would have a greater MAD?
- What is the least expensive book at bookstore B?
- What percent of the books in store B are between \$90 and \$120?

5) The box-and-whisker plots below compare the exam scores of two classes. Use the plots to answer the following questions:



- What is the inner-quartile range for class 2?
- Which class would have a greater MAD?
- How much greater was the median score of class 1 than class 2?
- If 18 students in class 2 scored between a 50 and 85, how many students are in the class?
- If 7 students in class 1 scored below a 75, how many students are in class 1?
- What percent of the students in class 2 scored between a 65 and an 85?

