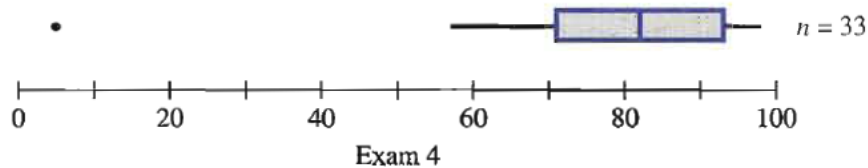


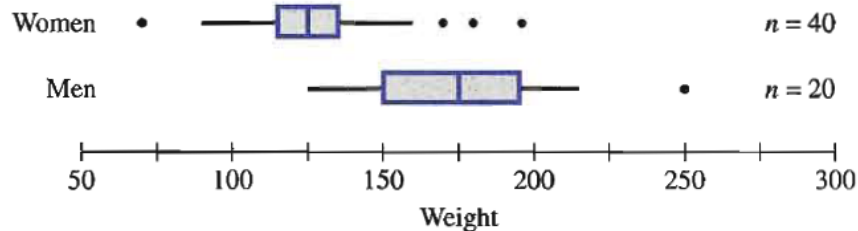
Homework

- Problems below, from Sowder et al., 2010 on comparing datasets using boxplots.
- From Sec. 13.4 in your text: #18

6. Mr. Meyer gave a 100-point mathematics test to his fifth-grade class. He gave the tests to his aide to grade and record on the computer. Later, he generated a box plot of the scores to see how his class did. He got the following graph. Notice that the point on the left represents an outlier.

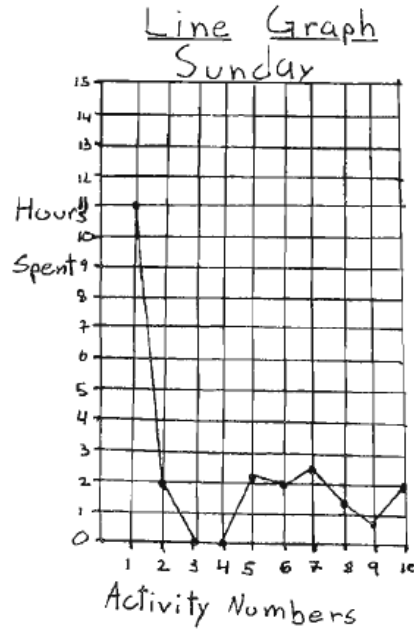
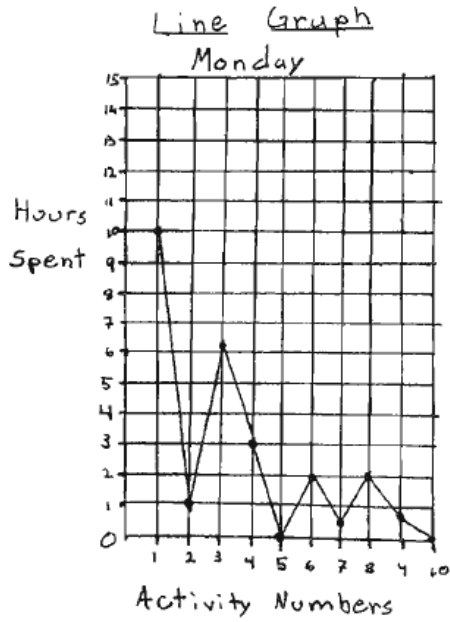


- How did Mr. Meyer's students do on the exam?
 - About how many students scored below 70?
 - What is the approximate value of the outlier?
 - Mr. Meyer is shocked that someone received such a low score on the exam. When he checks the grade sheet on the computer, he discovers that the low score belongs to one of his best students in math. He wonders what happened. What do you think happened?
7. Below are two box plots that represent the distribution of the weights in pounds of 40 women and 20 men.

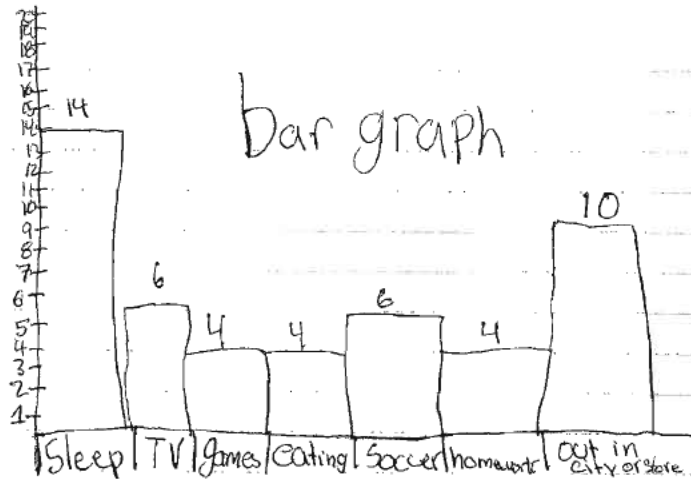


- List at least eight questions that can be answered by looking at the two box plots above, and provide answers for your questions. Try to avoid asking the same questions for each box plot—for example, do not list both “What is the median weight of the males?” and “What is the median weight of the females?”
 - List at least three questions that cannot be answered by examining these two box plots.
 - What important points do you think the graph makes?
 - If we assume that outliers on the right of the box-and-whiskers plots indicate overweight individuals, would it be correct to state that, in general, there are three times as many overweight women as men? Why or why not?
8. Suppose we grouped all the weights of the men and women from Learning Exercise 7 into a single data set and constructed a box plot. Draw a picture of what you think that plot would look like, and explain why it looks the way it does.

14. Sixth graders were asked to keep track of how they spent their time over 48 hours. Here are two students' choices for representing their data.



1. Sleeping
2. Skateboard
3. School
4. Sports
5. Church
6. Eating
7. TV
8. homework
9. Getting dressed
10. Shopping



- a. What do the dual line graphs enable you to see that a single bar graph does not?
- b. What problems do you see with a choice of a line graph?
- c. What representation would you choose? Why?