STA220 Fall 2015 Additional Problems - Week 1 Modules

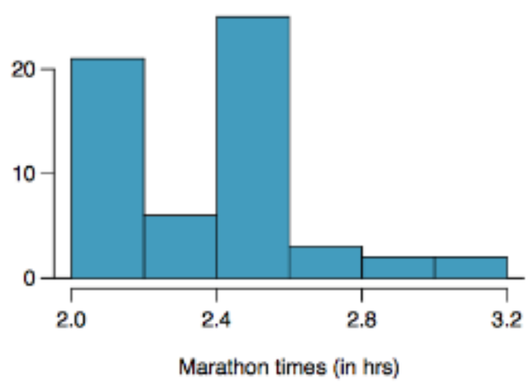
1. (Source: *OpenIntro Stats* 1.27) In a class of 25 students, 24 of them took an exam in class and 1 student took a make-up exam the following day. The professor graded the first batch of 24 exams and found an average score of 74 points with a standard deviation of 8.9 points. The student who took the make-up the following day scored 64 points on the exam.

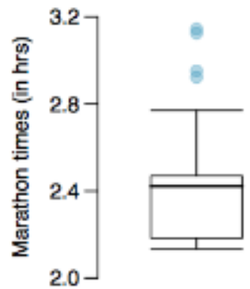
   (a) Does the new student's score increase or decrease the average score?

   (b) What is the new average?

   (c) Does the new student's score increase or decrease the standard deviation of the scores?

2. (Data from *OpenIntro Stats* 1.40) The histogram and box plots below show the distribution of finishing times for male and female winners of the New York Marathon between 1980 and 1999.





   (a) What features of the distribution are apparent in the histogram and not the box plot? What features are apparent in the box plot but not in this histogram?

   (b) How will the distribution of the z scores of winning times compare?