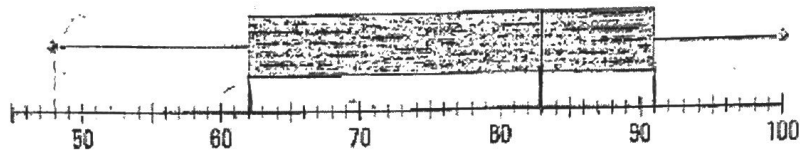


11.4 Homework

1. Refer to the following box plot of student test scores on the January final last year.



- a. What is the median score?

83

- b. What is the interquartile range?

$$91 - 62 = 29$$

- c. What percent of the students scored between 62 and 91?

50%

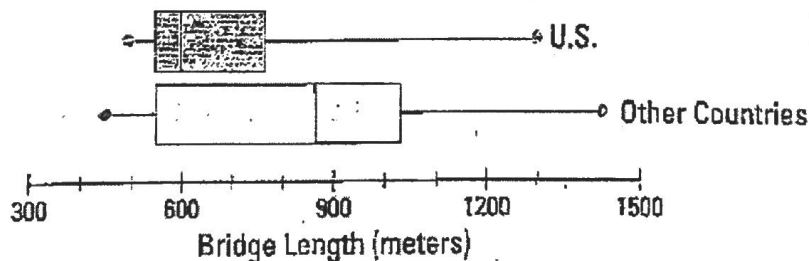
- d. What is the interval of scores of students who ranked below the lower quartile?

$$48 - 62$$

- e. Between which two quartiles is there the greatest spread?

Q_1 and Q_2 (the median)

2. Use the box plots below of the lengths in meters of bridges in the U.S. and other countries in 1996. The 20 longest U.S. bridges are compared with the 20 longest bridges outside the U.S.



- a. Each of the ten longest bridges in the U.S. is longer than 600 meters.

- b. True or false. The shortest of the 40 bridges in the data set is in the U.S.

Make a box plot for each of these sets of Data

Scores from a Chemistry Quiz

~~75~~ ~~34~~ ~~80~~ ~~95~~ ~~62~~ ~~75~~ ~~98~~ ~~93~~ ~~84~~ ~~87~~ ~~94~~ ~~88~~
~~70~~ ~~39~~ ~~84~~ ~~78~~ ~~98~~ ~~78~~ ~~90~~ ~~68~~ ~~75~~ ~~82~~ ~~76~~ ~~88~~

34 39 62 68 70
 75 75 75 76 78
 78 80 82 84 84
 85 85 87 90 93
 94 95 98 98

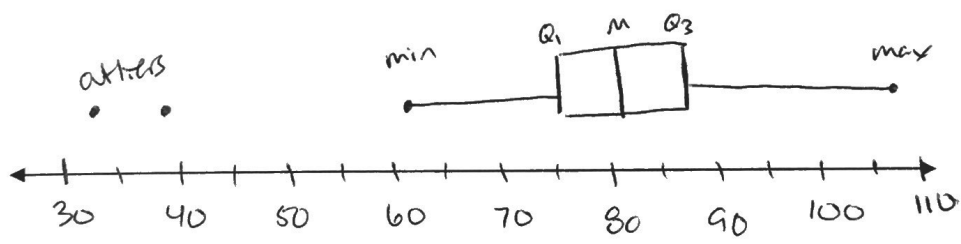
Number of House of Representative Members by State

7 1 9 4 53 7 5 1 27 14 2 2 18 9 4 4 6 6 2 8 9 14 8 4 8 1 3
 4 2 12 3 27 13 1 16 5 5 18 2 7 1 9 36 4 1 11 10 3 8 1

Box Plot of Chemistry Quiz Scores:

Chemistry Quiz Scores

Min: 34 62
 Q₁: 75
 med: 81
 Q₃: 88.5
 max: 98
 IQR = 13.5
 lower bound = 54.75
 upper bound = 108.75



Box Plot of Number of Representatives:

1 1 1 1 1 1 1 2 2 2
 2 2 3 3 3 4 4 4 4 4
 4 5 5 5 6 6 7 7 7 8
 8 8 8 9 9 9 9 10 11 12
 13 14 14 16 18 18 27 27 36 53

outliers min: 1
 Q₁: 3
 med: 6
 Q₃: 10
~~max: 53~~ 18
 IQR: 7
 lower bound = 14.75
 upper bound = 20.5

