Section 2.6-2.7 Self-Test Solutions

1) What percent of observations are at or below the 40th percentile?

    a) Less than 40%
    b) 40%
    c) At least 40% - From the definition of percentile
    d) Less than 60%
    e) 60%
    f) At least 60%

2) What percent of observations are at or above the 40th percentile?

    a) Less than 40%
    b) 40%
    c) At least 40%
    d) Less than 60%
    e) 60%
    f) At least 60% - From the definition of percentile

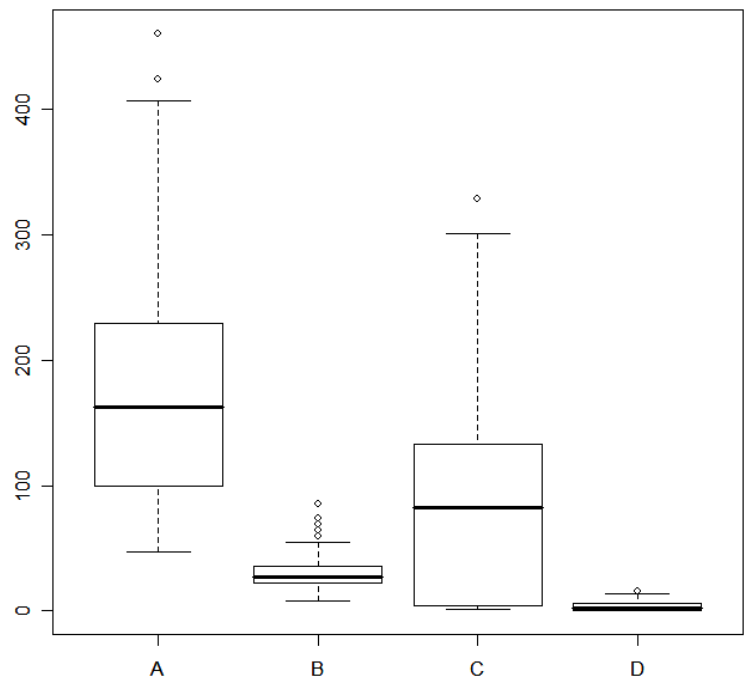3) Consider the five number summary: Min = 20 Q_1=26   Median=35 Q_3=42   Max=80.
The IQR is:

    a) 6
    b) 8
    c) 9
    d) 16 - Q_3-Q_1=42-26
    e) 60

4) For the box plots shown to the right, which of the variables has the smallest median?

    a) A
    b) B
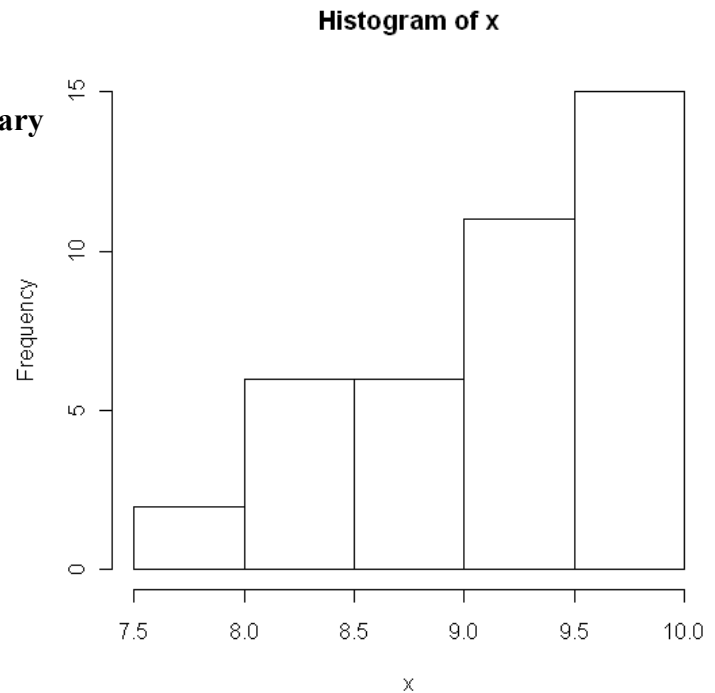   c) C
    d) D
    e) Can't tell from the picture

5) For the box plots shown to the right, the third quartile (Q_3) of variable A is approximately:

    a) 50
    b) 100
    c) 160
    d) 230
    e) 450

6) Consider the histogram to the left. This center and spread of this data set would be best summarized by:

    a) The mean and IQR
    b) The mean and median
    c) The five number summary - Use mean and sd for approximately normal. Five number summary for non-normal.
    d) The standard deviation and IQR
    e) The median and standard deviation

Histogram of x

(Frequency vs. x histogram; x-axis from 7.5 to 10.0, y-axis Frequency from 0 to 15)

7) A list of 20 exam scores range from 64 to 98. If a typo was made and the 64 was entered as a 4, then

    a) The standard deviation would become larger and the IQR would become smaller
    b) The standard deviation would become larger and the IQR would stay the same – IQR only changes if the spread of the middle half of the data changes.
    c) The standard deviation would become smaller and the IQR would become larger
    d) The standard deviation would become smaller and the IQR would stay the same
    e) The standard deviation would stay the same and the IQR would become smaller