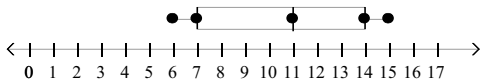
Name _____ Date _____

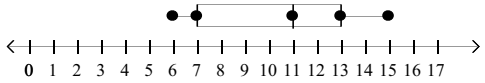
Coordinate Algebra Unit 4 Review and Practice Assigned 1/24/14

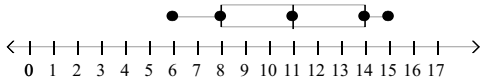
Multiple Choice
Identify the choice that best completes the statement or answers the question.

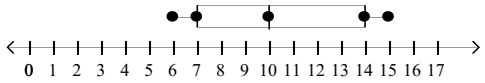
1. The number of calls answered by a paramedic team over an 8-day period are given. Use the data to make a box-and-whisker plot.

   12, 6, 8, 15, 14, 6, 14, 10

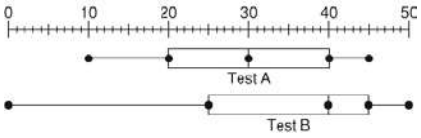
   a.
   

   b.
   

   c.
   

   d.
   

2. What is the difference between the medians for Test A and Test B?

   a. 10
   b. 25
   c. 35
   d. 40

3. Find the mean absolute deviation for this data set.
   2, 3, 1, 5, 4
   a. 2,1
   b. 1
   c. 2
   d. 1.2

4. The data set and dot plot display the number of questions a student missed on 8 math quizzes. What is a correct description of the distribution?

1	3	5	3
3	2	4	3

   a. The data is skewed; the measures of center are varied.
   b. The data is skewed; the measures of center are equal.
   c. The data is normal; the measures of center are varied.
   d. The data is normal; the measures of center are equal.

5. Which of the following is true about these two data sets?

   {71, 71, 75, 77, 83, 91, 92} and {73, 75, 76, 76, 83, 87, 90}
   a. The medians are equal.
   b. The ranges are equal.
   c. The means are equal.
   d. The variances are equal.

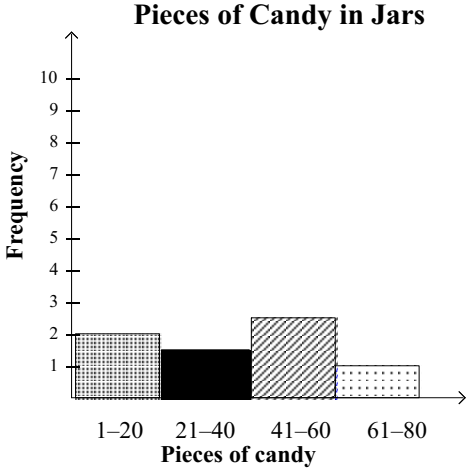
6. The number of calls received by a technical support center during 18 randomly selected days is listed. Identify the outlier, and describe how it affects the mean and the standard deviation.

50	57	77	66	53	72
51	88	82	70	62	64
69	88	98	65	14	68

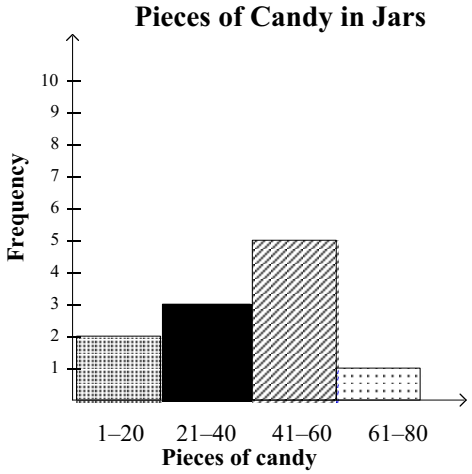
a. The outlier is 88. The outlier in the data set causes the mean to decrease from about 18.6 to about 13.7 and the standard deviation to increase from about 66.3 to about 69.4.
b. The outlier is 88. The outlier in the data set causes the mean to increase from about 66.3 to about 69.4 and the standard deviation to decrease from about 18.6 to about 13.7.
c. The outlier is 14. The outlier in the data set causes the mean to decrease from about 69.4 to about 66.3 and the standard deviation to increase from about 13.7 to about 18.6.
d. The outlier is 14. The outlier in the data set causes the mean to decrease from about 18.6 to about 13.7 and the standard deviation to increase from about 66.3 to about 69.4.

7. The number of pieces of candy in randomly selected jars are 20, 1, 40, 21, 40, 41, 60, 49, 53, 41, 61. Display the data using a histogram.

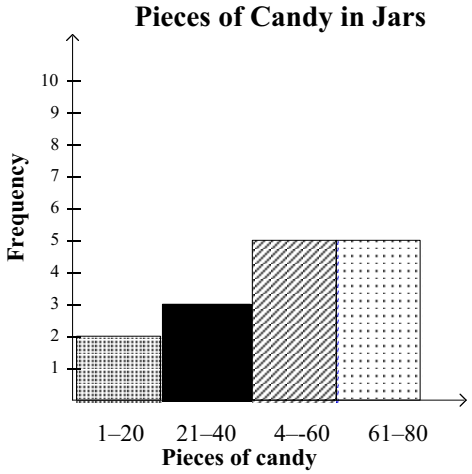
7a.



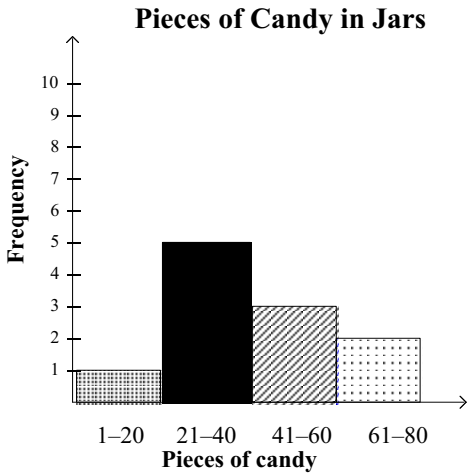
7b.



7c.



7d.

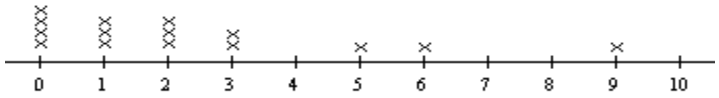


8. Average prices for 35 different models (types) of car from the 3 most popular automobile brands in the United States are shown.
Make a dot plot of the data and explain what the distribution means.

Average Suggested Retail Prices, 2011 Automobile Models (in thousands of dollars)

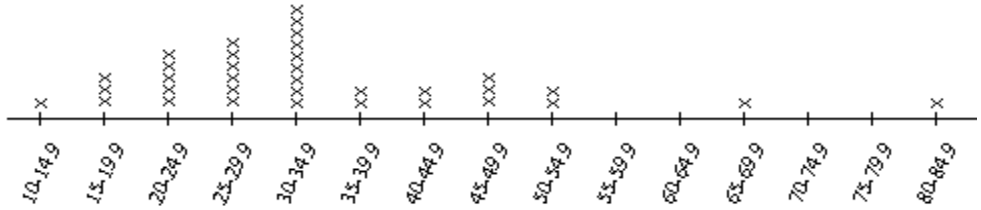
Price Range	10- 14.9	15- 19.9	20- 24.9	25- 29.9	30- 34.9	35- 39.9	40- 44.9	45- 49.9
# of Models	1	3	5	6	9	2	2	3
Price Range	50- 54.9	55- 59.9	60- 64.9	65- 69.9	70- 74.9	75- 79.9	80- 84.9	
# of Models	2	0	0	1	0	0	1	

a.



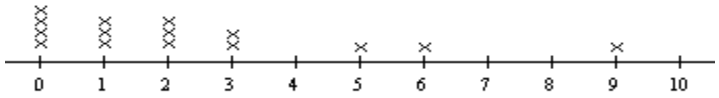
This data distribution is skewed to the left. Most car models cost less than the mean.

b.



The data distribution is skewed to the right. Most car models cost more than the mean.

c.



The data distribution is skewed to the right. Most car models cost more than the mean.

d.

This data distribution is skewed to the left. Most car models cost less than the mean.

9. Two athletes run several miles each day to train. A random sample of their daily distances is taken. Use a calculator to find the mean and standard deviation for each athlete. Use your results to make a conclusion about the data. Round your answers to the nearest hundredth, if necessary.

Distances (miles)	
Athlete A	3, 6, 5, 8, 4, 8, 6, 8, 9, 5, 5, 6, 7, 7, 3, 5, 5, 6, 7, 10, 3, 9
Athlete B	8, 9, 8, 8, 8, 4, 4, 4, 5, 5, 6, 15, 1, 3, 8, 4, 4, 8, 6, 10, 10, 10

a. Athlete A
$\bar{x} \approx 6.72$

$\sigma \approx 3.06$

Athlete B
$\bar{x} \approx 6.14$

$\sigma \approx 1.96$

The mean for Athlete A is slightly higher than Athlete B, but the standard deviation for Athlete A is much higher than Athlete B; therefore, Athlete A has more variability.

b. Athlete A
$\bar{x} \approx 7$

$\sigma \approx 3.13$

Athlete B
$\bar{x} \approx 6$

$\sigma \approx 2.00$

The mean for Athlete A is slightly higher than Athlete B, but the standard deviation for Athlete A is much higher than Athlete B; therefore, Athlete A has more variability.

c. Athlete A
$\bar{x} \approx 6.14$

$\sigma \approx 1.96$

Athlete B
$\bar{x} \approx 6.72$

$\sigma \approx 3.06$

The mean for Athlete B is slightly higher than Athlete A, but the standard deviation for Athlete B is much higher than Athlete A; therefore, Athlete B has more variability.

d. Athlete A
$\bar{x} \approx 6$

$\sigma \approx 2.00$

Athlete B
$\bar{x} \approx 7$

$\sigma \approx 3.13$

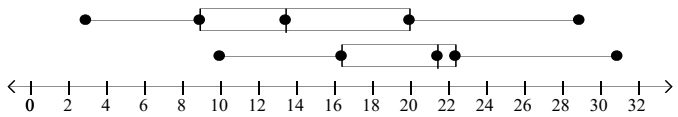
The mean for Athlete B is slightly higher than Athlete A, but the standard deviation for Athlete B is much higher than Athlete A; therefore, Athlete B has more variability.

10. The lists below give the number of men and women enrolled in Art 101 across a group of colleges.

Men: 10, 12, 15, 9, 22, 3, 9, 7, 16, 29, 22, 18
Women: 22, 31, 19, 22, 15, 10, 22, 18, 30, 11, 21, 23

Use the data listed above to find the range and interquartile range of each set and make a conclusion about the data.

a.

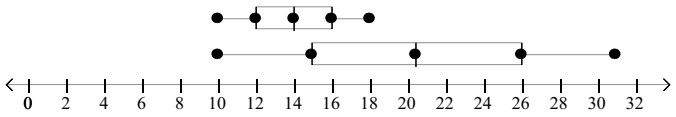


Men
Range = 21
IQR = 6

Women
Range = 26
IQR = 11

The range and IQR for men is less than the range and IQR for women, which indicates that the data is more spread out for women.

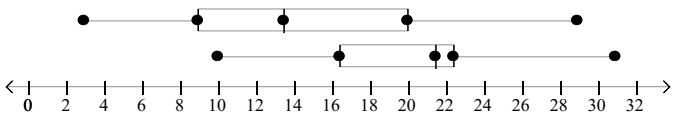
b.



Men	Women
Range = 21	Range = 6
IQR = 10.5	IQR = 4

The range and IQR for men is greater than the range and IQR for women, which indicates that the data is more spread out for men.

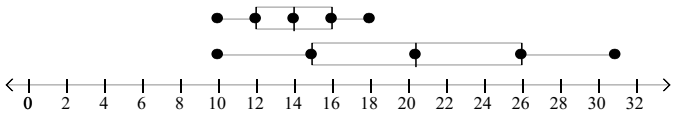
c.



Men	Women
Range = 26	Range = 21
IQR = 11	IQR = 6

The range and IQR for men is greater than the range and IQR for women, which indicates that the data is more spread out for men.

d.



Men	Women
Range = 6	Range = 21
IQR = 4	IQR = 10.5

The range and IQR for men is less than the range and IQR for women, which indicates that the data is more spread out for women.