# Algebra 1 – Corrective Assignment Unit 4
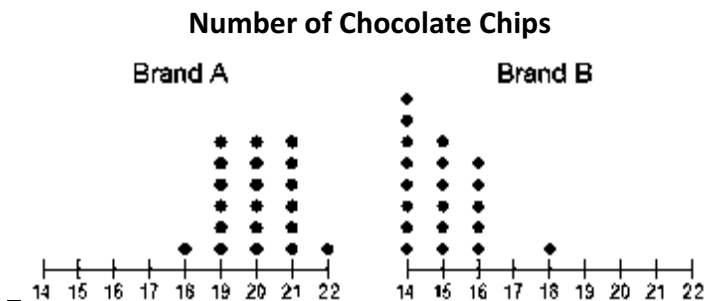
Name: _____ Date:_____ Period: _____

## Unit 4 Corrective Assignment – One Variable Statistics

**Fill in the following blanks with *ALWAYS*, *SOMETIMES*, or *NEVER*.**

1.  Adding an outlier from a data set will _____ decrease the standard deviation.

2.  The mean of a data set is _____ a value in the data set.

3.  In a distribution that is skewed left, the mean is _____ greater than the median.

4.  A distribution that is skewed left is _____ skewed right.

5.  If a distribution is skewed left, the median will _____ be greater than the mean.

6.  If you add two outliers to a data set, the standard deviation will _____ change.

7.  If you add a number to a data set, the median will _____ change.

8.  Use the dotplots to fill in the table.



**Number of Chocolate Chips**

Brand A                    Brand B

14 15 16 17 18 19 20 21 22          14 15 16 17 18 19 20 21 22

| Number of Chocolate Chips | | |
|---|---|---|
| | Brand A | Brand B |
| **Mean** | | |
| **Median** | | |
| **Standard Deviation** | | |

9. Circle the data sets that **DO NOT** match the boxplot.



2   4   6   8   10  12  14  16  18  20
time in minutes
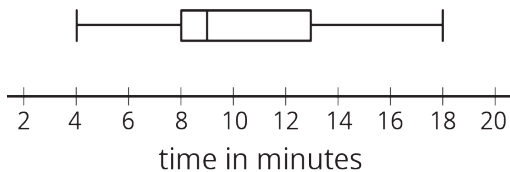
a.      {4, 8, 10, 12, 13, 17, 19}

b.      {4, 7, 9, 9, 11, 11, 14, 18}

c.      {4, 8, 9, 9, 13, 18}

d.      {4, 4, 8, 8, 10, 12, 14, 18}

e.      {4, 8, 8, 9, 12, 13, 18}

10. Students were asked how many books they read last summer. The following list tells how the students responded:

$$\{ 4, 4, 5, 3, 2, 1, 2, 1, 2, 1, 0, 0, 7, 0, 1, 1, 1, 9, 8, 0 \}$$

a. Make a dotplot to represent the data: (4pts)

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←————————————————————————————————————————→
    0    1    2    3    4    5    6    7    8    9    10
```

b. Find the 5 number summary of the data:

Min_____    1$^{st}$ Quartile_____    _Median _____    3$^{rd}$ Quartile _____    Max _____

c. Find the range and standard deviation of the data.        Range _____ Standard deviation _____

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**The double-stemplot below represents the number of butterflies caught by each teacher for each day of the butterflyfest.**

11. Describe the shape of each distribution.

| Brust | | Bean |
|---|---|---|
| 1 | 3 | 4 9    where 4 \| 4  means 44 MCs graded |
| 9 7 4 3 | 4 | 0 4 7 7 8 |
| 8 8 8 5 2 | 5 | 0 0 3 3 5 6 6 |
| 8 7 4 4 3 1 0 | 6 | 2 3 3 |

12.  Who graded the most butterflies on a single day?

13. Find the 5# summary for each teacher.

14.  Use the 5# summaries to create two parallel boxplots, one for each teacher.

Brust

Bean

```
←————————————————————————————————————————→
   30           40           50           60           70
```

15. The boxplot to the right shows the monthly payments required to purchase a brand new car of two types: international domestic.
Using the boxplots to the right, circle all of the ***incorrect statements***.
There may be several!



International

Domestic

Dollars
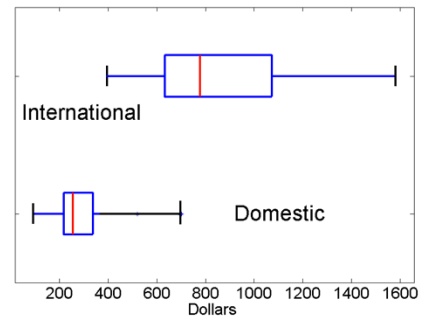
a. The middle 50% of payments for International cars was between $400 and $600.

b. The distribution of Domestic car payments is skewed to the right.

c. The interquartile range for Domestic is greater than the interquartile range for the International car payments.

d. 25% of the payments for the International cars were between $800 and $1600

16.. Determine whether the maximum value for the Domestic car payments is greater than or less than the median for International car payments.

17. The following boxplots represent the graduation rates in two different regions of the United States.



Southeast

Midwest

High School Completion Rate
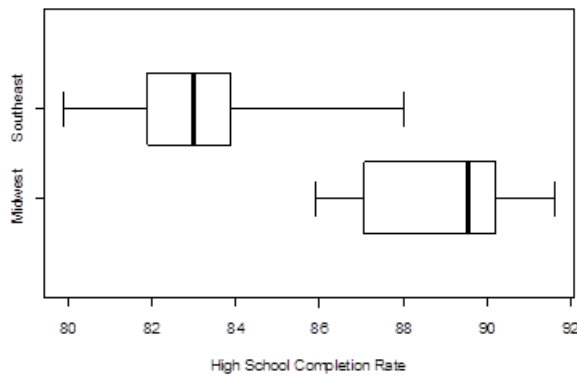
Using SOCS, compare the distributions of graduations rates for the Southeast and Midwest. Be sure to address all 4 parts of SOCS, if possible. (8 pts)