Name: _____

8.4.D1 – STANDARD DEVIATION

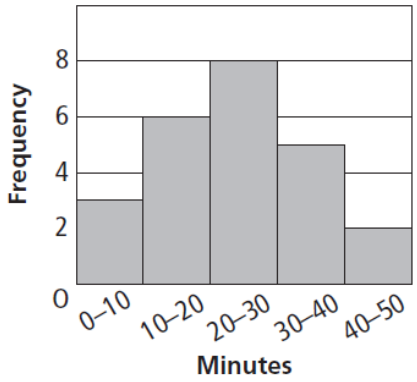
Past due on: _____ Period: _____

ERROR ANALYSIS: Identify the error made and then make corrections.

1. The average commute times (in minutes) of a group of workers are shown below. What is a histogram that represents the data?

5 20 28 24 15 30 45 9 22 21 36 25 33 10 28 35 12 17 40 19

Minutes	Frequency
0–10	3
10–20	6
20–30	8
30–40	5
40–50	2



2. The table shows the number of points scored by a basketball team in the first 10 games of the season. Find the five-number summary and create a box-and-whisker plot that represents the data.

GAME	1	2	3	4	5	6	7	8	9	10
POINTS SCORED	53	45	38	62	40	35	55	65	57	48

1 2 3 4 5 6 7 8 9 10 35 38 40 45 48 53 55 57 62 65

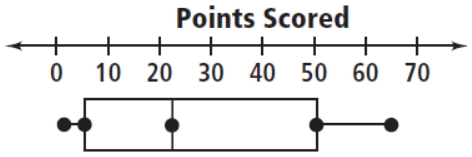
Minimum = 1

$Q_1 = \frac{5 + 6}{2} = 5.5$

Median $= \frac{10 + 35}{2} = 22.5$

$Q_3 = \frac{48 + 53}{2} = 50.5$

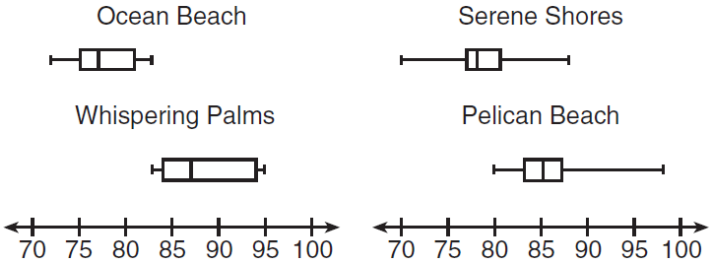
Maximum = 65



3. Corrinne is planning a beach vacation in July and is analyzing the daily high temperatures for her potential destination. She constructed box plots shown in the diagram below.

   a. She would like to choose a destination with a high median temperature and a small interquartile range, which destination should she choose?

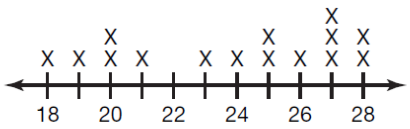
   b. Which destination's daily high temps are primarily (75% or greater) in the 80s?



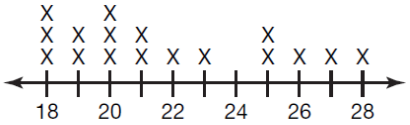
   c. Which destination's daily high temperatures vary the greatest?

4. Which data set would you expect to have the lowest standard deviation? Find the standard deviation of that data set.

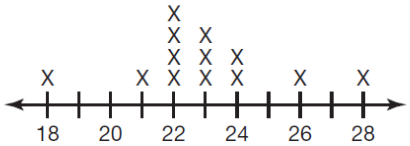
a.



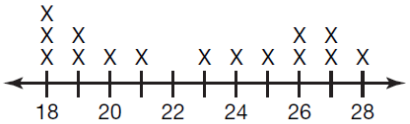
c.



b.



d.



The manager of a bakery wants to compare the sales records of two types of cake. The table shows the number of each type sold per week for 11 weeks.

VELVET CAKES	9	11	13	3	9	13	5	13	5	15	7
SWIRL CAKES	1	9	5	11	4	10	6	22	13	6	10

5. Calculate the five-number summary, the interquartile range, the lower fence, the upper fence, outliers and the mean for <u>each</u> type of cake:

VELVET CAKES		SWIRL CAKES	
Minimum: _____	IQR: _____	Minimum: _____	IQR: _____
Q1: _____	Lower fence: _____	Q1: _____	Lower fence: _____
Median: _____	Upper fence: _____	Median: _____	Upper fence: _____
Q3: _____	Outliers: _____	Q3: _____	Outliers: _____
Maximum: _____	Mean: _____	Maximum: _____	Mean: _____

6. Construct box-and-whisker plots of <u>each</u> cake's sales using the same number line for both.

7. Which type of cake contains data for which the median is the best measure of center?

8. Which type of cake contains data for which the mean is the best measure of center?

Solve the quadratic equation using ANY algebraic method: factoring, square roots, completing the square, or the quadratic formula. If necessary, approximate the solutions to the nearest hundredth.

9. $m^2 + 14m + 28 = 4$

10. $12k^2 - 17 = 8k$