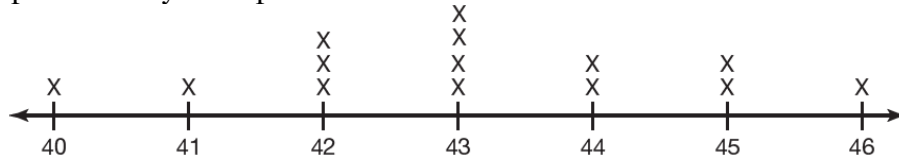


8.4.D2 - STANDARD DEVIATION

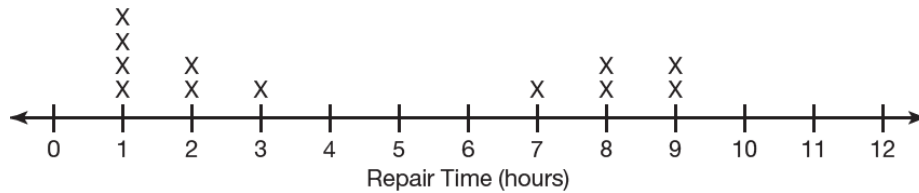
Calculate the mean and the standard deviation of each given data set. *If necessary, refer to the 8.4 example "Calculating and Interpreting the Standard Deviation of a Data Set" in the Chapter 8 Summary.*

- 18, 20, 24, 25, 26, 26, 28, 30, 32, & 35
- 102, 103, 103, 104, 104, 104, 105, 105, 106, 106, & 107
- The data are represented by a dot plot:

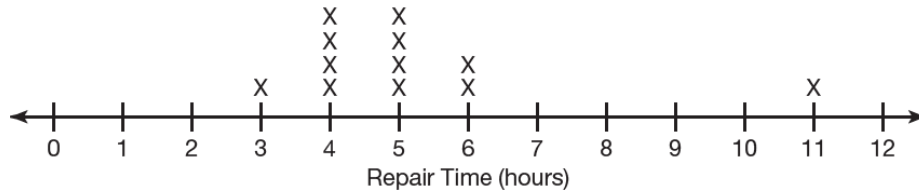


Dannette and Alphonso work for a computer repair company. They must include the time it takes to complete each repair in their repair log book. The dot plots below show the number of hours each of their last 12 repairs took.

Dannette's Repair Times



Alphonso's Repair Times



- Determine the standard deviation for Dannette and Alphonso.
- Which repair person would you ask to fix your computer if you were in a hurry to have it repaired? Explain your reasoning.
- Alphonso explains to his boss that his average repair time does not accurately reflect how fast he is, because he had a very difficult repair that took over 10 hours. If the repair that took over 10 hours an outlier? Show work and explain your reasoning.
- Calculate and compare the mean and standard deviation for Alphonso's repair times with and without the repair that took over 10 hours.
- Is Alphonso correct in his explanation to this boss? Why or why not?

Spiral Review – Refer to your 1st Semester Summary or your quadratics card.

9. Connor wants to attend the town carnival. The price of admission to the carnival is \$4.50, and each ride costs an additional 79 cents. If he can spend at most \$16 at the carnival, write an inequality that can be used to solve for R , the number of rides Connor can go on, and what is the maximum number of rides he can go on?
10. The graph of a linear equation contains the points $(3, 11)$ & $(-2, 1)$. Which point also lies on the graph?
- A. $(2, 1)$ B. $(2, 4)$ C. $(2, 6)$ D. $(2, 9)$
11. Krystal was given \$3000 when she turned 2 years old. Her parents invested it at a 2% interest rate compounded annually. No deposits or withdrawals were made. How much money did Krystal have in the account when she turned 18? *Show all work.*
12. A gardener is planting two types of trees:
Type A is three feet tall and grows at a rate of 15 inches per year.
Type B is four feet tall and grows at a rate of 10 inches per year.
Algebraically determine exactly how many years it will take for these trees to be the same height.
Show all work.

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.

13. $4x^2 - 15 = -x$

14. $b^2 + 8b - 8 = 5$