**GSE Algebra II Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Unit: 7** | **Homework**: 3 |
| **Standard**:**Summarize, represent, and interpret data on a single count or measurement variable** * **MCC9-12.S.ID.2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different datasets.
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| **Essential Question:** What are the center and spread measurements for a set of data? |
| **Key Words**: **Center, Data, Descriptive Statistics, Interquartile Range, Standard Deviation, Variance, Range, Quartiles, Mean Absolute Deviation** |
| find the variance and standard deviation.  |
| 1. {7, 4, 3, 9, 2} | 2. {35, 67, 21, 16, 24, 51, 18, 32} |
| 3. {19, 23, 17, 20, 25, 19, 15, 22} | 4. {5, 12, 10, 13, 8, 11, 15, 12} |
| 5. A biologist is growing bacteria in the lab. For a certain species of bacteria, she records these doubling times: 41 min, 45 min, 39 min, 42 min, 38 min, 88 min, 43, min, 40 min, 44 min 39 min, 42 min and 40 min. |
| a. find the mean of the data | b. find the standard deviation |
| c. identify any outliers | d. describe how any outlier affects the mean and standard deviation |
| 6. Each week, Damien records the miles per gallon for his car to the nearest whole number. Over a period of ten weeks, the data are 18, 17, 19, 18, 18, 25, 29, 30, 26, 19. He wants to arrange and summarize his data so that he can analyze it.  |
| a. Make a box and whisker plot of his data.  | b. explain what the interquartile range represents in terms of the car’s miles per gallon. |
| c. find the standard deviation for the data | d. explain what the standard deviation represents in terms of the car’s miles per gallon. |
| e. Damien thinks that the standard deviation is a more reliable measure of dispersion than the interquartile range. Is he correct? Explain. |