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| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **1. Given the following frequency distribution, find the mean, variance, and standard deviation.  Please show all of your work.**   |  |  | | --- | --- | | Errors | Frequency | | 61-63 | 19 | | 64-66 | 17 | | 67-69 | 5 | | 70-72 | 10 | | 73-75 | 12 | |      |  | | --- | | **2. Please show all of your work when answering the following:** I.       Use Chebyshev’s theorem to find what percent of the values will fall between 222 and 286 for a data set with a mean of 254 and standard deviation of 16.   II.     Use the Empirical Rule to find what two values 95% of the data will fall between for a data set with a mean of 216 and standard deviation of 12. |      |  | | --- | | **3. Nine college students had eaten the following number of times at a fast food restaurant for dinner in the last ten days:**   2, 8, 5, 2, 9, 9, 3, 4, 1   Find the mean, median, mode, range, and midrange for these data.  **Please show all of your work.** |      |  | | --- | | **4. A Math test has a mean of 49 and standard deviation of 10.0. Find the corresponding z scores for:** I. a test score of 62   II. a test score of 30   **Please show all of your work**. |      |  | | --- | | **5. Rank the following data in increasing order and find the position and value of the 11th percentile.  Please show all of your work.**     7   5   3   2   9   6   4   3   8   5   5   8 |      |  | | --- | | **6. The following data lists the average monthly snowfall for January in 15 cities around the US:**   42    45    8     18    45    15    31    46 3     33    2     6     32    47    36   Find the mean, variance, and standard deviation.  Please show all of your work. |      |  | | --- | | **7. Starting with the data values 70 and 100, add three data values to the sample so that the mean is 90, the median is 87, and the mode is 87.  Please show all of your work.** | |