**MAT 142 Problem set**

**Unit: Statistics**

**Topic: Organizing and Visualizing Data**

**Directions:** Solve the following problems. Please show your work, and explain your reasoning.

Consider the set of test scores shown below

88, 82, 95, 71, 91, 95, 86, 83, 76, 83, 96, 92, 86, 94, 90, 94, 61, 71, 100, 92, 83, 50, 84, 89, 87, 66, 99,

96, 84, 73, 72, 70, 59, 92, 93, 95, 83, 93, 49, 49, 80, 100, 71, 94, 96, 62, 85, 94, 90, 98, 74, 93, 100, 88,

92, 98, 50, 99, 100, 87, 89, 92, 96, 100, 87, 99, 98, 90, 89, 97, 84, 71

1. Organize the test data into a frequency table. Use classes of width 10, starting with 40. Include columns for both the frequency and the relative frequency.
2. Use the frequency distribution in part (1) to create a frequency histogram of the data. Remember to give your chart a title and to label your axes.
3. Make and ordered stem and leaf display of the data in part (1)

**MAT 142 Problem set**

**Unit: Statistics**

**Topic: Measures of Central Tendency**

**Directions:** Solve the following problems. Please show your work, use proper notation and explain your reasoning.

|  |  |
| --- | --- |
| **Age (x)** | **Frequency (f)** |
| **17** | **2** |
| **18** | **4** |
| **19** | **7** |
| **20** | **6** |
| **21** | **2** |
| **22** | **3** |
| **25** | **2** |
| **26** | **3** |
| **32** | **1** |

1. Consider the frequency distribution of freshman in a mathematics class.
2. Find the Mean
3. Find the median
4. Find the Mode(s)
5. Find the 5 number summary

**MAT 142 Problem set**

**Unit: Statistics**

**Topic: Measures of Dispersion**

**Directions:** Solve the following problems. Please show your work, use proper notation and explain your reasoning.

Consider the following table of the ages of our first six presidents

**Ages of the first 6 presidents at inauguration**

|  |  |
| --- | --- |
| Washington | 57 |
| J. Adams | 61 |
| Jefferson | 57 |
| Madison | 57 |
| Monroe | 58 |
| JQ Adams | 57 |

1. Find the mean of the data set
2. Find the standard deviation (showing all work)
3. How many of the presidents’ ages fall within one standard deviation of the mean?