

1. The pulse rates (per minute) for 6 patients visited a doctor this morning were recorded as the following: 67 77 88 75 72 76. Find the **sample mean** and the **sample standard deviation** of this sample of pulse rates.

Sample Mean = \_\_\_\_\_ Sample Standard Deviation = \_\_\_\_\_

2. Answer parts 1) to 8) using the following pulse rates data.

65 72 78 80 71 76 60 82 97 69 90 112 71 72 71

- 1) 70<sup>th</sup> percentile of the data above: \_\_\_\_\_
  - 2) The percentile of a value 76 in the data above is: \_\_\_\_\_
  - 3) Minimum = \_\_\_\_\_  $Q_1$  = \_\_\_\_\_ Median = \_\_\_\_\_  $Q_3$  = \_\_\_\_\_ Maximum = \_\_\_\_\_
  - 4) Inter-quartile Range = \_\_\_\_\_
  - 5) The distribution of this data is (describe the skewness) \_\_\_\_\_
  - 6) Make a Stemplot.
  - 7) Make a frequency histogram using the classes starting from class “0 - < 10”, or “say 0 to less than 10”.
  - 8) Make a Boxplot and **identigy outliers** if they exist and also indicate them in the boxplot using fences.
3. Suppose that the pulse rates (per minute) of healthy male adults from a large population is normally distributed with mean  $\mu = 69$  and standard deviation  $\sigma = 3$ .
- a) What does the Empirical Rule say about the percentage of this distribution within 63 to 75?
  - b) What does the Chebychev’s Rule say about the percentage of this distribution within 63 to 75?
  - c) If a person’s pulse rate is 72, what would be the z-score of his/her pulse rate?