M2 - Summary statistic worksheet

1. The sample mean of the ages of 5 people is 30 years. If a 36-year old is added, what is the new sample mean of the ages?

2. The sample median of the ages of 5 people is 30 years. If a 36-year old is added, what is the new sample median?

3. For a sample of observations the following summary statistics were obtained: $\bar{x} = 3$, median=3.5, variance $s^2 = 4.8$, standard deviation $s = 2.19$, IQR = 4, and Range=6. Suppose you add 2 to each of the observations in the sample, that is you increase each of the observed values by 2.

   (a) Find the new, updated summary statistics.

   (b) Compare your answers with those for the original data. How did adding 2 to each number change the summary statistics?

4. This is a variance contest. You must give a list of six numbers chosen from the whole numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, with repeats allowed.

   (a) Give a list of six numbers with the largest variance such a list can possibly have.

   (b) Give a list of six numbers with the smallest variance such a list can possibly have.

5. The median price of all books on my Amazon wish list is \$16.00. Provide an interpretation of the median. What can you say about the costs of the books on my wish list?