Name: $\qquad$ Class: $\qquad$
AU5: HW \#2 - Standard Deviation
Date: $\qquad$

1. Use the statistical features of your calculator to find the standard deviation to the nearest tenth of a data set of the miles per gallon from a sample of 5 cars. (Round to the nearest tenth)
24.9, 24.7, 24.7, 23.4, 27.9
a. Mean: $\qquad$ b. Standard Deviation: $\qquad$
c. Using the mean and the standard deviation, determine the value in miles per gallon that is 1 standard deviation above the mean and below the mean.
d. What percentiles would these values represent?
2. Twenty-five people were attending an event. The ages of the people are indicated below: (Round to the nearest tenth)

$$
3,3,4,4,4,4,5,6,6,6,6,6,6,6,7,7,7,7,7,7,16,17,22,22,25
$$

a. Mean: $\qquad$ b. Standard Deviation: $\qquad$
c. Using the mean and the standard deviation, determine the age in years that is 1 standard deviation above the mean and below the mean.
d. What percentiles would these value represent?
3. A set of eight men had heights (in inches) as shown below. (Round to the nearest tenth)
67.070 .967 .669 .869 .770 .968 .767 .2
a. Mean: $\qquad$ b. Standard Deviation: $\qquad$
c. Using the mean and the standard deviation, determine the height in inches that is 1 standard deviation above the mean and below the mean.
d. What percentiles would these values represent?
4. The heights (in inches) of 9 women were as shown below (Round to the nearest tenth)
68.470 .967 .467 .767 .169 .266 .070 .367 .6
a. Mean: $\qquad$ b. Standard Deviation: $\qquad$
c. Using the mean and the standard deviation, determine the value in miles per gallon that is 1 standard deviation above the mean and below the mean.
d. What percentiles would these values represent?
4. At a track meet there were three men's 100 m races. The sprinters' times were recorded to the nearest $1 / 10$ of a second. The results of the three races are shown in the dot plots below.

Race 1


Race 2


Race 3

a. Use your calculator to find the mean and the standard deviation for each of the three races. Write your answers in the table below to the nearest thousandth.

|  | Mean | Standard Deviation |
| :---: | :---: | :---: |
| Race 1 |  |  |
| Race 2 |  |  |
| Race 3 |  |  |

5. Twenty-two students from the junior class and twenty-six students from the senior class at River City High School participated in a walkathon to raise money for the school's band. Dot plots indicating the distances in miles students from each class walked are shown below:

a) Estimate the mean number of miles walked by a junior and mark it with an " X " on the junior class dot plot. How did you estimate this position? Repeat the same steps for seniors.
b) What is the median of the junior data distribution? Senior distribution?
c) Is the mean number of miles walked by a junior approximately equal to, or different than the median number of miles? Explain. How about the seniors?
d) Would the mean or the median be better to describe the typical number of miles walked by a junior in this walkathon? How about the seniors?
