

Standard Deviation and Absolute Deviation - Guided Lesson Explanation**Explanation#1**

Step 1) Compute the mean, \bar{x}

Step 2) First add all of the numbers in the data set together. Then divide by the total number of values in the data set

$$\text{Step 3) } \bar{x} = \frac{60+56+58+60+61}{5} = \frac{295}{5} = 59$$

The mean \bar{x} , is 59.

Explanation#2

Step1) Compute the variance (σ^2)

Step2) Take each number in the data set, subtract the mean, and square the result. Then take the sum of the squares.

$$(60 - 59)^2 + (56 - 59)^2 + (58 - 59)^2 + (60 - 59)^2 + (61 - 59)^2 = 16$$

Now compute the variance by dividing the sum above by the total number of values in the data set.

$$\sigma^2 = \frac{16}{5} = 3.2$$

Explanation#3

Step1) Compute the standard deviation, σ

Step2) To find the standard deviation, σ , take the square root of the variance, σ^2

$$\begin{aligned}\sigma &= \sqrt{\sigma^2} \\ &= \sqrt{3.2} \\ &= 1.79\end{aligned}$$

The standard deviation of height is 1.79 inches.

