|  |
| --- |
| Do Now |
|  |
| Vocabulary |
| VarianceStandard Deviation |
| Steps to Calculate Standard Deviation |
| 1.2.3.4.5. |
| ExamplesFind the standard deviation of five hourly pay values: {$6, $6.50, $7, $7, $7.50}Step 1: Find the mean:

|  |  |  |
| --- | --- | --- |
| Data Value (x) | Deviation from the Mean | Square Deviation  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Step 4: Find the average of the square deviations (called the variance)$$v=\frac{\sum\_{}^{}(x-\overbar{x})^{2}}{n}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Step 5: The standard deviation is the square root the variance. $$s=\sqrt{v}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Empirical Rule |
| When a distribution is bell-shaped (or normal), the empirical rule states that the standard deviation has the following characteristics:http://cwx.prenhall.com/bookbind/pubbooks/esm_sincich_pracstats_2/chapter7/medialib/Image386.gif |