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| **Calculating Variance and Standard Deviation of a Sample** | | | | | | | | | |  |
|  | | | | | | | |  |  |  |
|  | **This worksheet demonstrates examples of using Excel functions to find variance and standard deviation based on a specific dataset.** | | | | | | |  |  |  |
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|  | Variance and standard deviation are measures of dispersion of sample values around the mean. Variance is the squared deviations of each sample value from the mean divided by the total number of data points in the sample less 1. Standard deviation is the square root of the variance. | | | | | | |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |
|  | Follow these steps to calculate variance in Excel: | | | | | | |  | **Variance** |  |
|  |  | | | | | | |  | 76 |  |
| **1)** | Click an output cell for the solution. (Use J24 for this example.) | | | | | | |  | 42 |  |
|  |  | | | | | | |  | 135 |  |
| **2)** | Click the function button (***fx***), select **All** in the left pane to display all Excel functions, and double-click **VAR** in the right pane. | | | | | | |  | 1377 |  |
|  |  | -6746 |  |
|  |  | | | | | | |  | -4 |  |
| **3)** | A dialog box appears and asks what dataset to use. If the correct data range appears in the dialog box, click OK. | | | | | | |  | -62 |  |
|  |  | 1984 |  |
|  |  | | | | | | |  | 1842 |  |
|  | Excel automatically enters the data range that it assumes you want to use. If the data range is incorrect, highlight the data range that you want (in this case, J13:J23) with the mouse to select it. Excel enters the data range that you select in the dialog box. | | | | | | |  | 176884 |  |
|  |  | 846 |  |
|  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |
|  | **Note:** You may need to drag the dialog window to one side of the screen in order to see your data range. | | | | | | |  |  |  |
|  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **4)** | Excel calculates the variance and displays the answer in the output cell. (The answer for this example is 2851544795.) | | | | | | |  |  |  |
|  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | | | | | | |  | **Standard Deviation** |  |
|  | Follow these steps to calculate standard deviation in Excel: | | | | | | |  |  |
|  |  | | | | | | |  | 76 |  |
| **1)** | Click an output cell for the solution. (Use J46 for this example.) | | | | | | |  | 42 |  |
|  |  | | | | | | |  | 135 |  |
| **2)** | Click the function button (***fx***), select **All** in the left pane to display all Excel functions, and double-click **STDEV** in the right pane. | | | | | | |  | 1377 |  |
|  |  | -6746 |  |
|  |  | | | | | | |  | -4 |  |
| **3)** | A dialog box appears and asks what dataset to use. If the correct dataset appears in the dialog box, click OK. | | | | | | |  | -62 |  |
|  |  | 1984 |  |
|  |  | | | | | | |  | 1842 |  |
| **4)** | Excel calculates the standard deviation and displays the answer in the output cell. (The answer for this example **53399.8576**.) | | | | | | |  | 176884 |  |
|  |  | 846 |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |