Variance and standard deviation generally helps to find the risk in the data.

Example: **Insurance Claims:** Variance and standard deviation are used to model and predict the variability of insurance claims. Higher variability might lead to different risk assessments.

**Example:**

Insurance Claim Amounts (in $):

$1000, $1500,$1200,$2000,$1800,$1300,$2500,$1100,$1700,$1900

First, let's calculate the variance and standard deviation for this dataset.

1. **Calculating Variance:**

**A math problem with numbers and lines

Description automatically generated**

1. **Calculating Standard Deviation:**

**A square root of a square

Description automatically generated**

This standard deviation tells us how **spread** out the claim amounts are around the mean value of $1650.

In this example, a standard deviation of approximately $393.7 indicates the variability or dispersion of claim amounts around the **mean**.

If the standard deviation were higher, it would imply a wider range of claim amounts, suggesting higher **uncertainty or risk** for the insurance company.