

Variance

To find the variance,

1. find the mean of the group.
2. subtract the mean from every score.
3. square each of those differences.
4. add all those and divide by the number of scores.

Example: Carl's scores were 65, 75, and 100. The mean was 80. Now I subtract the mean from each of those scores.

$$\text{Variance} = \frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2$$

$$65 - 80 = -15; \quad 75 - 80 = -5; \quad 100 - 80 = 20$$

Squaring each difference, I have 225, 25, and 400. Now add and divide by three.

$$\frac{225 + 25 + 400}{3} = \frac{650}{3}$$

The variance is 216.6

Find the variances for the following:

1. 60, 80, 80, 100
2. 60, 70, 80, 80, 90, 100
3. 80, 80, 80, 80, 80, 80
5. 55, 60, 65, 70, 75, 80, 85
6. 7, 9, 10, 14, 15, 17
7. 1, 13, 3, 11, 8, 6, 9, 5, 2, 12
8. 10, 20, 37, 38, 42, 45, 48, 50, 52, 55, 58, 62, 63, 80, 90