

Z –scores (standard score) is how many standard deviations either above or below the mean



Note: Z –scores can be positive (above the mean), negative (below the mean) or zero(equal the mean)

Examples:

- ✚ **Z=+1** indicates that the score (x) is one standard deviation above the mean.
- ✚ **Z=-2** indicates that the score (x) is two standard deviation below the mean.
- ✚ **Z=0** indicates that the score (x) is zero standard deviations away from the mean(it is equal to the mean)

$$Z = \frac{X - \bar{X}}{\text{Standard deviation}}$$

✚ **X= score**

✚ **\bar{x} = mean**

Example:

Score =110, mean= 100, and Standard deviation= 10

$$Z = \frac{110 - 100}{10} = +1$$

 **Result : A score 110 is 1 standard deviation above the mean.**