

# Z-Score

A z-score is a standardized statistical score for an observation or data point. It states by how many standard deviations the observation is above or below the average of the distribution from which it is drawn. The z-score is calculated in the following way:

$$z = \frac{(X - \bar{X})}{S}$$

*X = original score*

*$\bar{X}$  = average of original scores*

*S = standard deviation of original scores*

Z-scores are not necessarily normally distributed. They will have the same shape as the distribution on which they were based.