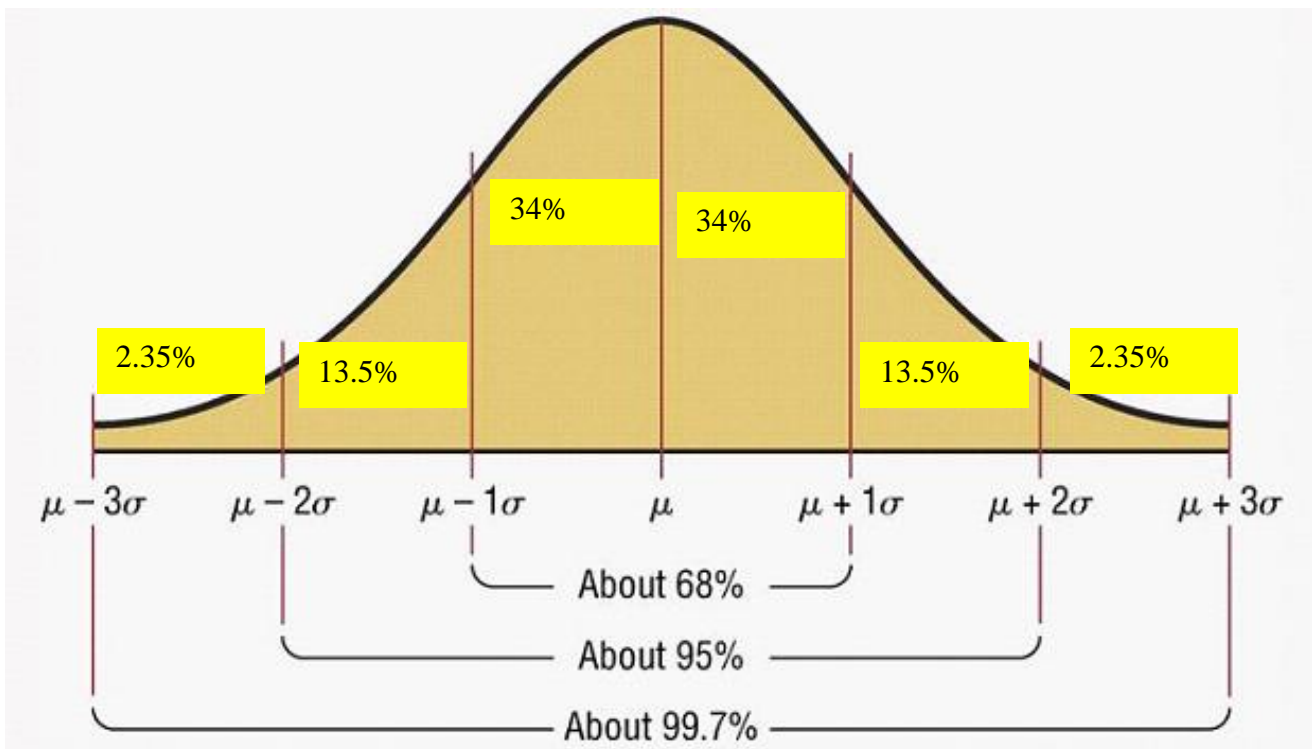


Normal Probability Distribution

A normal distribution is a continuous, symmetric, bell-shaped distribution of a variable. The properties of a normal distribution, are:

1. A normal distribution curve is bell-shaped
2. The mean, median, and mode are equal and are located at the center of the distribution
3. A normal distribution curve is unimodal (i.e., it has only one mode)
4. The curve is symmetric about the mean, which is equivalent to saying that its shape is the same on both sides of a vertical line passing through the center.
5. The curve is continuous, that is, there are no gaps or holes. For each value of X , there is a corresponding value of Y .
6. The curve never touches the x axis. Theoretically, no matter how far in either direction the curve extends, it never meets the x axis – but it gets increasingly closer
7. The total area under a normal distribution curve is equal to 1.00, or 100%



The Empirical Rule states that:

The area under the part of a normal curve that lies within 1 standard deviation of the mean is approximately 0.68, or 68%; within 2 standard deviations, about 0.95, or 95%; and within 3 standard deviations, about 0.997, or 99.7%.