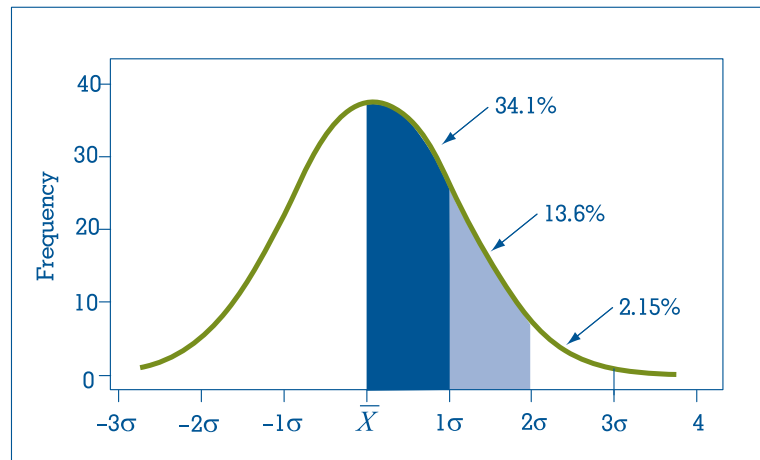


## PERCENTILES AND THE NORMAL DISTRIBUTION

When data follow the pattern for a normal distribution, the resulting curve can be used to determine the relative percentages in which the data are distributed with respect to the mean.

Look at the following distribution:



In a normal distribution, approximately 68.2 percent of the data are within  $\pm 1\sigma$  of the mean.

Any normal distribution can be summarized by the following three statements:

1. About two-thirds of the data are within  $\pm 1\sigma$  of the mean.
2. Only about 5 percent of the data are beyond  $\pm 2\sigma$  of the mean.
3. It is unusual to find any data beyond  $\pm 3\sigma$  of the mean.