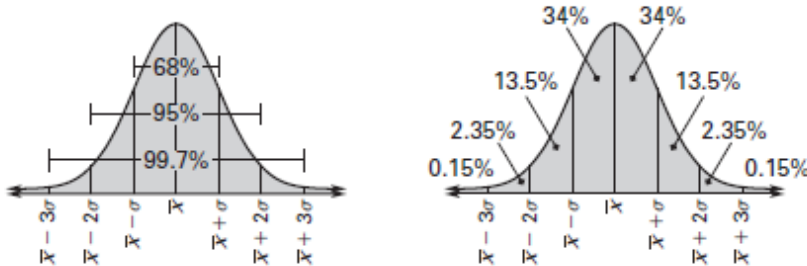


Normal Distribution

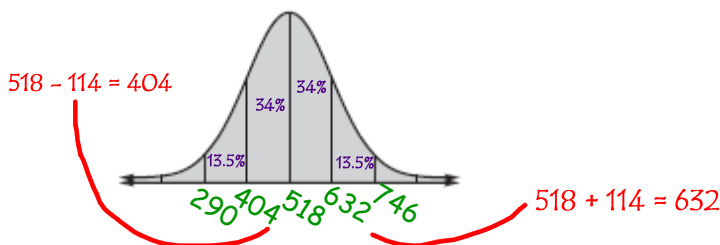
AREAS UNDER A NORMAL CURVE

A normal distribution with mean \bar{x} and standard deviation σ has these properties:

- The total area under the related normal curve is 1.
- About 68 % of the area lies within 1 standard deviation of the mean.
- About 95 % of the area lies within 2 standard deviations of the mean.
- About 99.7 % of the area lies within 3 standard deviations of the mean.



Math Scores The math scores of the 2004 SAT exam are normally distributed with a mean of 518 and a standard deviation of 114.



- About what percent of the test-takers have scores between 518 and 746? $34 + 13.5 = 47.5\%$
- About what percent of the test-takers have scores less than 404? $50 - 34 = 16\%$