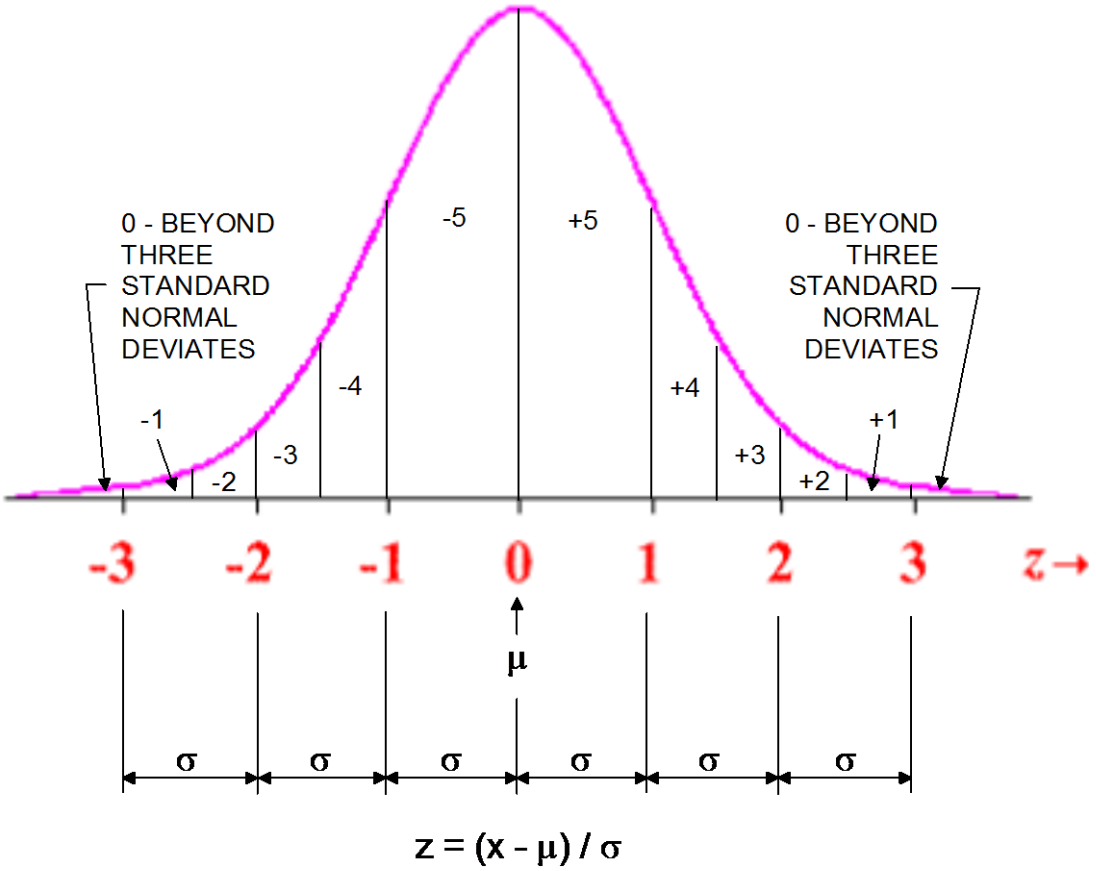
SCORING OF PROFICIENCY SAMPLES BY AASHTO re:source

Scoring of proficiency test samples is determined by fitting a standard normal distribution to the data from all laboratories (with outliers eliminated). Laboratories whose results fall within one standard normal deviation from the mean are assigned a numerical score of "5." Laboratories whose results fall between 1 and 1½ standard normal deviations from the mean are assigned a score of "4," and the ratings are further decreased one point for each half standard normal deviate thereafter. A positive sign (+) indicates the lab result is above the mean, and a negative sign (-) indicates the lab result is below the mean. This system can be depicted graphically, as follows:



Sample Calculation

Assume mean, μ = 20.73 and standard deviation, σ = 0.65 with lab result, x = 19.8

Standard normal deviations from mean = (lab result – mean)/(standard deviation) = (19.8 – 20.7)/0.65 = -1.38
Note that negative sign here indicates the lab result is below the mean.

The lab result is between 1 and 1½ standard normal deviations below the mean, so that the lab rating for this particular result, according to the figure shown above, would be -4.

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