



ASQ CRE Prep course

Lesson II. A. 1. c.

Basic Probability Concepts

Central Limit Theorem



Part of the foundation for probability and statistics

CENTRAL LIMIT THEOREM

Central Limit Theorem

- **The sample means will be more normally distributed than individual readings**

$$\sigma_{\bar{x}} = \frac{\sigma_x}{\sqrt{n}}$$

- **Standard error of the mean**

$$s_{\bar{x}} = \frac{s_x}{\sqrt{n}}$$

Pop.
Dist.

_____ x

_____ x

_____ x

$n=2$

_____ \bar{x}

_____ \bar{x}

_____ \bar{x}

$n=5$

_____ \bar{x}

_____ \bar{x}

_____ \bar{x}

$n=25$

_____ \bar{x}

_____ \bar{x}

_____ \bar{x}

Where is CLT
used in practice?



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Lesson II. A. 1. d.

Statistical Terms

Measures of Dispersion