



ASQ CRE Prep course

Lesson II. A. 1. e.

Statistical Terms

COV & A Couple Laws

A dramatic sunset over a dark, choppy ocean. The sun is a bright, glowing orb on the horizon, casting a warm orange and yellow light across the sky and reflecting on the water. The sky is filled with dark, heavy clouds, some of which are illuminated by the sun's light. The ocean is dark blue and black, with white foam from the waves visible in the foreground.

Let's get technical

A FEW MORE TERMS

Coefficient of Variation

- **Standard deviation divided by the mean**
- **Expressed as percentage**

$$COV = \frac{s}{\bar{X}}(100\%)$$

$$COV = \frac{\sigma}{\mu}(100\%)$$

Tchebysheff's Theorem

- **Given a number, K, which is greater than one and for any set of n measurements, at least $(1 - 1/K^2)$ of the measurements will lie within K standard deviations of their mean**
- **$2 \text{ s.d.} - (1 - 1/2^2) = 3/4$**
- **$3 \text{ s.d.} - (1 - 1/3^2) = 8/9$**

Law of Large Numbers

- **Another foundational theorem**
- **The larger the sample the better the estimate**

We'll make a
statistician out of
you yet.



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Lesson II. A. 2. a.

Basic Probability Concepts

Probability