



ASQ CRE Prep course

Lesson II. A. 1. e.

Statistical Terms

COV & A Couple Laws

A wide-angle photograph of a sunset over the ocean. The sun is a large, bright yellow orb positioned in the center-right of the frame, partially obscured by a thin layer of clouds. The sky is a gradient of orange and yellow near the horizon, transitioning to a darker blue and purple as it goes up. The ocean in the foreground is dark blue with white-capped waves crashing towards the shore. The overall atmosphere is serene and dramatic.

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