



ASQ CRE Prep course

Lesson II. A. 6.

Sample Size Determination



How many samples do I need?

SAMPLING & SAMPLE SIZE

Random Samples

- **What is wrong with these sampling plans:**
 - Bill selects the 5 units each day to inspect.
 - Jill takes a unit each hour to inspect.
 - Sean inspect items at start of reel only
 - Jean only selects items from line A

Time to Failure Censoring and Random

- **Right Censoring**
- **Left Censoring**
- **Interval Censoring**
- **Multiple Censoring**

Sample Size for Hypothesis Test

- **Solve for n**

$$n = \frac{Z^2 \sigma^2}{E^2}$$

Sample Size for p-test

- For proportions

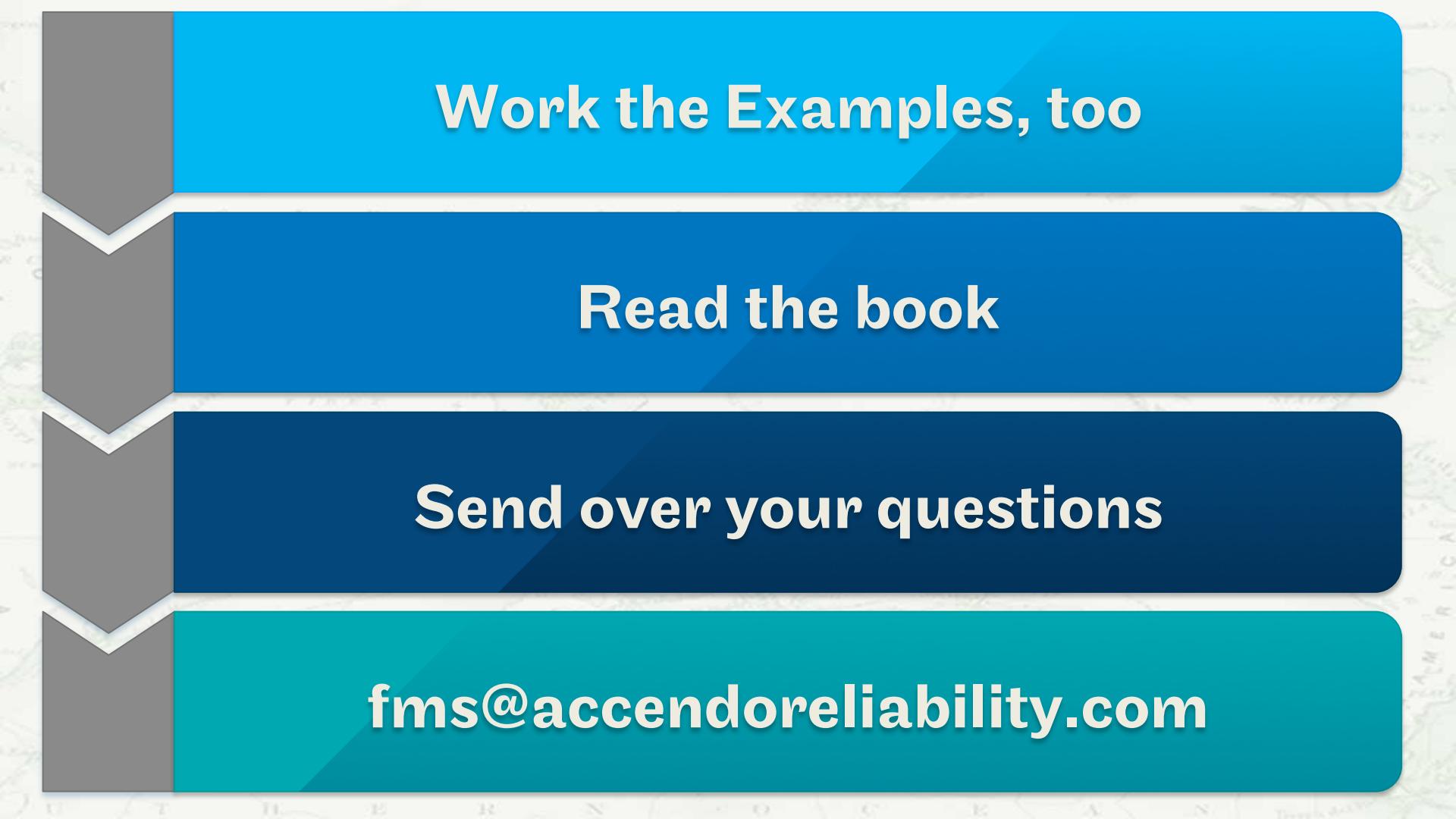
$$n = \frac{Z^2 \bar{p}(1 - \bar{p})}{(\Delta p)^2}$$

Success Testing

- Based on Binomial Distribution with no failures over representative lifetime, m .

$$n = \frac{\ln(1 - C)}{m^\beta \ln(R)}$$

What is the right
number of
samples?



Work the Examples, too

Read the book

Send over your questions

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Lesson II. A. 7.

Statistical Process Control
(SPC) and Process Capability