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Different industries may have different rule of thumb strategies for sample size selection.

Sample Size Calculation *the Statistics behind it*

Typically we are interested in,

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… and we build confidence intervals for these unknown quantities

The pollster may want to have a *margin of error* +/- 3% with a *confidence level* of 95%

The quality control manager may want to assess the average number of defectives in a box with a *margin of error* of plus minus 0.3 batteries and a *confidence level* of 95%

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A number for the population std deviation is needed

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Confidence level:	**95%**
Population std deviation:	***0.9 batteries***

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$$\bar{x} - \left|z_{\alpha/2}\right| \frac{\sigma}{\sqrt{n}} < \mu < \bar{x} + \left|z_{\alpha/2}\right| \frac{\sigma}{\sqrt{n}}$$

Margin of error = 0.3

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n = $(5.88)^2$ = 34.6 ≈ 35