

The level of Confidence is the proportion of estimates, x , that are within the margin of Error (E) of the parameter, μ .

So usually true $|\mu - x| < E$ is

Algebra follows... $|u| < a \rightarrow -a < u < a$.

$$|\mu - x| < E$$

$$\begin{array}{c} -E < \mu - x < E \\ +x \quad \quad +x \quad +x \end{array}$$

$$\rightarrow x - E < \mu < x + E \leftarrow$$

"Confidence Interval"

Level of Confidence is the proportion of such intervals that contain the parameter, μ .

General forms

Margin of Error $\rightarrow$

$$E = Z_{\alpha/2} \cdot (\text{standard error})$$

Confidence Interval

(estimate from a sample) - E

Unknown parameter

(estimate from a sample) + E