

Summary of 7.1

$\bar{x}$ is a normally distributed, unbiased estimate of the parameter μ .

Unbiased means $E(\bar{x}) = \mu$

σ is the standard deviation of the estimates, but a std. dev. of an estimator is usually called standard error.

After picking a level of confidence, we can determine

$$\alpha = 1 - (\text{level of confidence})$$

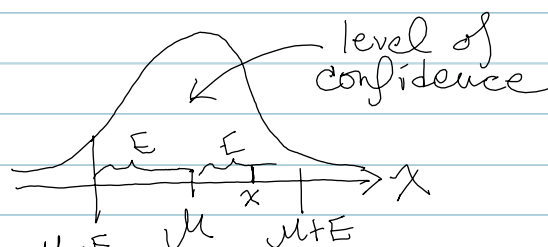
↑ alpha

and determine the value of $Z_{\alpha/2}$.

$Z_{\alpha/2}$ (a "critical value") is the number of standard errors in the margin of error.



$$E = Z_{\alpha/2} \sigma$$



True error
~

- The level of conf. is the proportion of estimates in the interval, where $|\mu - \bar{x}| < E$.