Note: Point estimate is the mean

Confidence Interval

$$\bar{x} \pm z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}}$$

sample Normal or n>30

— < μ < —

Confidence Interval for t-distribution

$$\bar{x} \pm t_{\alpha/2} \frac{s}{\sqrt{n}}$$

n<30

— < μ < —

Confidence Interval for Proportion

$$\hat{p} \pm z_{\alpha/2} \sqrt{\frac{\hat{p}\hat{q}}{n}}$$

sample based on a proportion (percentage)

— < p < —

Sample size

$$n = \left(\frac{z_{\alpha/2}\sigma}{E} \right)^2 \quad \text{or} \quad n = \frac{(z_{\alpha/2})^2 \hat{p}\hat{q}}{E^2}$$

based on sample that does not give a proportion

based on proportion

if there is no estimate of $\hat{p}$ use $\hat{p}$ = 0.5

To review Ch 7: page384-386 1-11 odd
page 387-388 1-23 all