Intro Stats Chapter 8 Big Ideas

Concept	Which Lesson?	Definition, Formula, Example or Interpret.
Confidence Interval (A, B)	8.1	Point Estimate: $\frac{A+B}{2}$ Margin of Error: $\frac{B-A}{2}$ Interpret: We are _% confident that the interval from A to B captures the true parameter of context.
Confidence Level	8.1	If we take many _% confidence intervals, about _% will capture the true parameter of context.
What affects Margin of Error?	8.1	Sample Size: Increasing samplesize → decreases margin of error Confidence Level: Increasing confidence → increases margin of error
Conditions for constructing a confidence interval	8.2 8.3	Random: 10%: $n < \frac{1}{10}N$ Normal: → Large counts → {- Pop is Normal - $n \geq 30$ CLT - No strong skew or outliers
Confidence Interval for a Proportion	8.2	$\hat{p} \pm z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$ 1 sample z interval for p
Critical Values for Proportions	8.2	z^* 90%: $z^* = 1.645$ - Last row in table b. 95% $z^* = 1.960$ - Calc: 99% $z^* = 2.576$ invNorm(tail)
4 Step Process	8.2 8.3	State: Parameter, % Plan: Name, conditions Do: General, specific, work, answer Conclude: "We are ..."
Confidence Interval for a Mean	8.3	$\bar{x} \pm t^* \frac{S_x}{\sqrt{n}}$ 1 sample t interval for μ
Critical Values for Means	8.3	t^* use table b Calc: df = n-1 & % invT(Tail, df)
Solving for sample size	8.3	Proportions m.o.e. $= z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$ Solve for n. *Conservative $\hat{p} = 0.5$ Means m.o.e. $= z^* \frac{S_x}{\sqrt{n}}$ Solve for n. *Use z^* because we don't know df.