Central Limit Theorem

➢ What are you being asked about?

	Individual	Mean	Proportion
Mean	μ	μ	p
Standard Deviation	σ	$\dfrac{\sigma}{\sqrt{n}}$	$\sqrt{\dfrac{p(1-p)}{n}}$
Conditions	• Normal	• $n \geq 30$ • Normal	• $np \geq 10$ • $n(1-p) \geq 10$ • Normal
z-score	$z = \dfrac{x - \mu}{\sigma}$	$z = \dfrac{\bar{x} - \mu}{\left(\dfrac{\sigma}{\sqrt{n}}\right)}$	$z = \dfrac{\hat{p} - p}{\sqrt{\dfrac{p(1-p)}{n}}}$
Other Equations	N/A	N/A	• $\hat{p} = \dfrac{x}{n}$ • $x = \hat{p} * n$
Key Phrases: Probability	• Individual • Random _____ Chosen	• Mean	• Proportion • Percent • x of n

➢ Does it say: "**differs by**"?

	No	Differs By Less			Differs By More
		Individual	Mean	Proportion	
Calculator Functions	Follow normalcdf Rules	• Lower: $\mu - x$ • Upper: $\mu + x$ • Mean: μ • SD: σ	• Lower: $\mu - x$ • Upper: $\mu + x$ • Mean: μ • SD: $\frac{\sigma}{\sqrt{n}}$	• Lower: $p - \%$ • Upper: $p + \%$ • Mean: p • SD: $\sqrt{\frac{p(1-p)}{n}}$	• $1 -$ "Differs by Less" • 2 * normalcdf (one of the sides)
Diagram	N/A				