STAT 270 Lecture 30
Fall 2015
20 November 2015

- I discussed the central limit theorem.

- I have finished the slides for "Continuous Distributions" and showed the first slide of One Sample Inference.

- Relevant problems: 5.38, 5.40, 5.41, 5.42, 5.43, 5.44, 5.45, 5.50, 5.52.

- Handwritten slides.

- Key jargon, ideas:

  - Populations are summarized by parameters.
  - The most important parameters are the population mean μ and SD σ.
  - Samples are summarized by statistics.
  - The corresponding statistics are the sample mean $\bar{X}$ and sample SD s.
  - The mean of a sample, $\bar{X}$, has a mean and an SD of its own.
  - The mean of $\bar{X}$ is the population mean μ:

  $$\mathrm{E}(\bar{X} = \mu_{\bar{X}} = \mu.$$

  - The SD of $\bar{X}$ is often called the *Standard Error of the Mean*:

  $$\sigma_{\bar{X}} = \sqrt{\mathrm{Var}(\bar{X})} = \frac{\sigma}{\sqrt{n}}.$$

  - The sampling distribution of $\bar{X}$ is normal with mean μ and SD $\sigma/\sqrt{n}$ so you can make normal approximations.