



SEARCH



RESOURCES

CONCEPTS

✓ 9. Notebook + Quiz: Sampling Dist...

✓ 10. Text: Sampling Distribution No...

✓ 11. Video: Introduction to Notation

✓ 12. Video: Notation for Parameter...

✓ 13. Quiz: Notation

✓ 14. Video: Other Sampling Distrib...

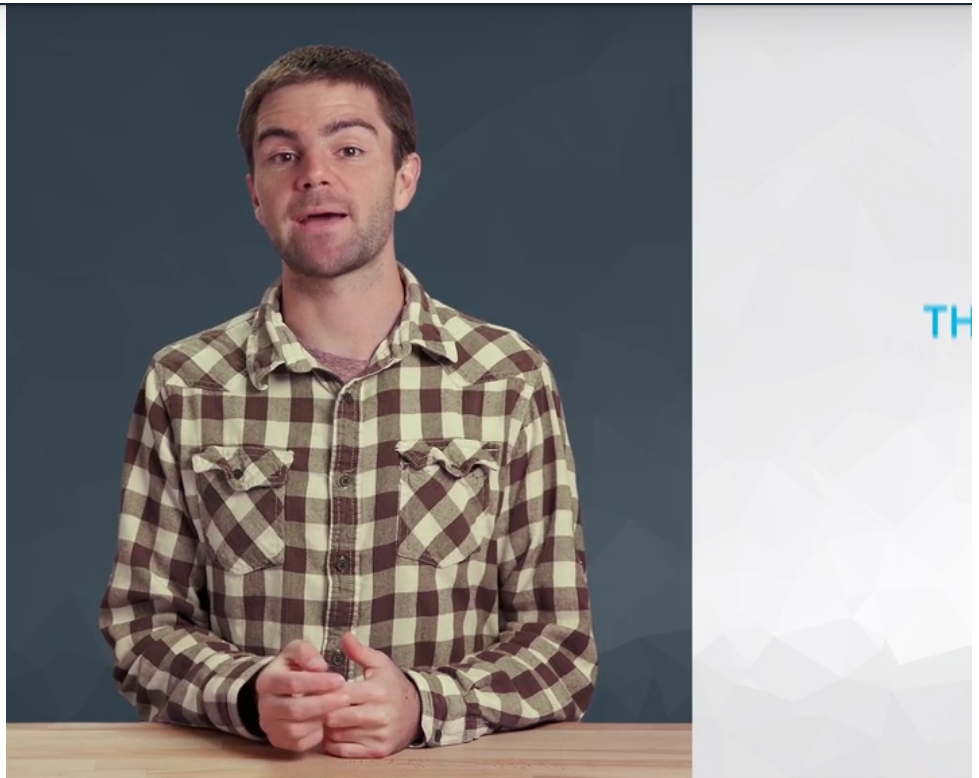
✓ 15. Video: Two Useful Theorems -...

✓ 16. Notebook + Quiz: Law of Large...

17. Video: Two Useful Theorems - ...

18. Notebook + Quiz: Central Limit...

19. Notebook + Quiz: Central Limit...



Two important mathematical theorems for working with sampling distribution

1. Law of Large Numbers

2. Central Limit Theorem

The **Law of Large Numbers** says that **as our sample size increases, the sample mean converges to the population mean**, but how did we determine that the sample mean was close to the population mean in the first place? How would we identify another relationship and statistic like this in the future?

Three of the most common ways are with the following estimation techniques

- **Maximum Likelihood Estimation**
- [Method of Moments Estimation][[https://en.wikipedia.org/wiki/Method](https://en.wikipedia.org/wiki/Method_of_moments_estimation)]
- **Bayesian Estimation**

Though these are beyond the scope of what is covered in this course, these are concepts that should be well understood for Data Scientists that may need to understand a hypothesis value that isn't as common as a mean or variance. Using one of these methods to estimate a hypothesis, would be a necessity.

**Mentor Help**

Ask a mentor on our Q&A platform

**Peer Chat**

Chat with peers and alumni