




## DAILY ASSESSMENT

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Course:	Coursera	USN:	4AL17EC070
Topic:	Basic Statics	Semester & Section:	6 <sup>TH</sup> SEM & 'B' Section
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## SESSION DETAILS


  


Basic Statistics > Week 6 > 6.04 CI for proportion

Inference and confidence interval for mean

Confidence interval for proportion and confidence levels

 Reading: Confidence interval for proportion and confidence levels  
10 min

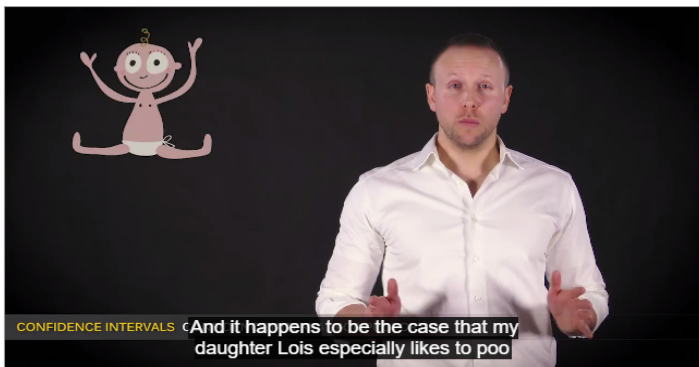
 Video: 6.04 CI for proportion  
5 min





 Video: 6.05 Confidence levels  
6 min




Sample size and example


Review

### 6.04 CI for proportion



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English 

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CONFIDENCE INTERVALS

- ✓ Reading: Confidence interval for proportion and confidence levels 10 min
- ✓ Video: 6.04 CI for proportion 5 min
- ✓ Video: 6.05 Confidence levels 6 min

Sample size and example

- ✓ Reading: Sample size and example 10 min
- ✓ Video: 6.06 Choosing the sample size 5 min
- ✓ Video: 6.07 Example 4 min

Review

## 6.06 Choosing the sample size



Save Note

Discuss

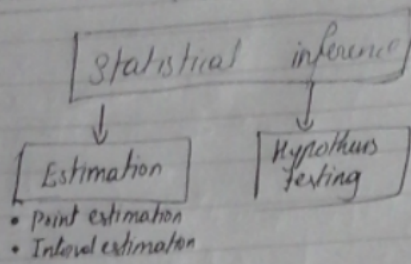
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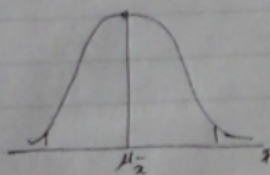
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## Statistical Inference



### Confidence Interval



$$\mu_x = \mu$$
$$\sigma_x = \frac{\sigma}{\sqrt{n}}$$

### Confidence Interval

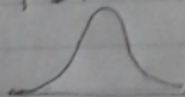
estimate a population mean

In 95% of the samples the population values will fall within the confidence interval

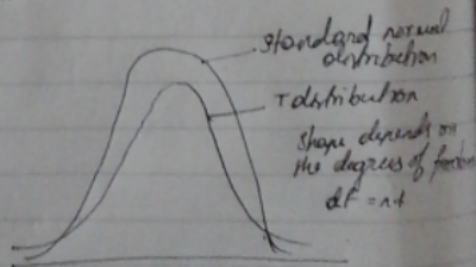
$$\bar{x} \pm 1.96 \sigma_x$$

where  $\sigma_x = \frac{\sigma}{\sqrt{n}}$

### T distribution



↓  
Bell shaped symmetric  
a mean of zero  
takes into account



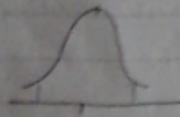
### Assumption

1. Randomization
2. approximately normal population distribution

6) for proportion

confidence interval  
for a proportion

sampling distribution of the sample proportion



$$\mu_p = p$$

$$\sigma_p = \sqrt{\frac{p(1-p)}{n}}$$

$$p \pm 1.96 \sigma_p \quad \sigma_p = \sqrt{\frac{p(1-p)}{n}}$$

$$p \pm Z_{\alpha/2} (se)$$

$$se = \sqrt{\frac{p(1-p)}{n}}$$

Choosing the Sample Size

Sample size  
mean

1 magnitude of desired margin of error

2 confidence level

3 variability

$$n = \frac{\sigma^2 z^2}{m^2}$$

Sample size proportions

$$n = \frac{p(1-p)z^2}{m^2}$$