

Happy New Year
and welcome back

Agenda

overview of the last 9 weeks of
AP Stats

Start a review process for ch. 8 Test

↓
will be
Thursday of
this week

Tu	Wed	Thu	Fri
	ch 9 Intro activity		Start ch 9

Tu	Wed	Thu	Fri
Review	ch 9 Intro activity Review	ch 8 Test	Start ch 9

The Rest of The Course

Ch. 8 Confidence Intervals

Ch. 9

Ch. 10

Ch. 11

Ch. 12

Review for AP Exam

The Rest of The Course

Ch. 8 Confidence Intervals

Ch. 9 Testing Claims


Ch. 10

Ch. 11

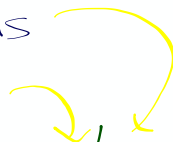
Ch. 12

Review for AP Exam


The Rest of The Course

- Ch. 8 Confidence Intervals
 - Ch. 9 Testing Claims
 - Ch. 10 Comparing Two Populations/Treatments
 - Ch. 11
 - Ch. 12
 - Review for AP Exam
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The Rest of The Course

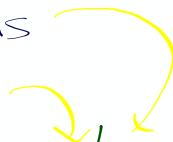
- Ch. 8 Confidence Intervals
 - Ch. 9 Testing Claims
 - Ch. 10 Comparing Two Populations/Treatments
 - Ch. 11 Inference for Distributions of Categorical Data
 - Chi-Square Tests (3-types)
 - Ch. 12
 - Review for AP Exam
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The Rest of The Course

- Ch. 8 Confidence Intervals
 - Ch. 9 Testing Claims
 - Ch. 10 Comparing Two Populations/Treatments
 - Ch. 11 Inference for Distributions of Categorical Data
 - Ch. 12 More on Scatter Plots/Regression
 - Review for AP Exam
- 

 * Chi-Square Tests (3-types)

The Rest of The Course

- Ch. 8 Confidence Intervals
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- 

 * Chi-Square Tests (3-types)
- Review for AP Exam ≈ 9 days

Emphasize

Reading the textbook !

→ deeper understanding
→ better retention

Today :

• Re-capture what we know about confidence intervals (start reviewing)

See your 3 LQ's [except for Carson!]

Do the Ch. 8 Review Exercises (with video solutions)
if you already have done this, then do Ch. 8 Practice TEST

Re-do Ch.8
Study Sheet

do as much as you can
without looking at the
old one.

AP Stats Chapter 8 Formula Study Sheet

	8.2	8.3
What are we trying to estimate?		
Symbol for statistic		
Symbol for parameter		
Name of the procedure		
RANDOM condition		
10% Condition		

AP Stats Chapter 8 Formula Study Sheet

	8.2	8.3
What are we trying to estimate?	proportion	mean
Symbol for statistic	\hat{p}	\bar{x}
Symbol for parameter	p	μ
Name of the procedure	one sample z interval for p	one sample t interval for μ
RANDOM condition	"SRS" random sample	"SRS" random sample
10% Condition	$n < \frac{1}{10}$ population	$n < \frac{1}{10}$ of popul.

NORMAL condition	Large Counts $n\hat{p} \geq 10$ $n(1-\hat{p}) \geq 10$	a) Pop is approx normal b) $n \geq 30$ CLT c) sample has no strong skewness or outliers
Formula for standard error	$SE_{\hat{p}} = \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$	$SE_{\bar{x}} = \frac{s_x}{\sqrt{n}}$
z^* or t^* ?	z^*	t^* use $df = n - 1$
Formula for margin of error	$z^* \cdot \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$	$t^* \cdot \frac{s_x}{\sqrt{n}}$
General formula for confidence interval	Point Est \pm Marg. of Err	Point Est \pm Marg. of Error
Specific formula for confidence interval	$\hat{p} \pm z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$	$\bar{x} \pm t^* \cdot \frac{s_x}{\sqrt{n}}$

Calculator \rightarrow | Prop Z Int | T Interval

Why do we use t^* and not z^* ?

NORMAL condition	<p>we</p> <p>large counts</p> $n\hat{p} \geq 10$ $n(1-\hat{p}) \geq 10$	<ul style="list-style-type: none"> a) Pop is approx normal b) $n \geq 30$ CLT c) sample has no strong skewness or outliers
Formula for standard error	$SE_{\hat{p}} = \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$ z^*	$SE_{\bar{x}} = \frac{s_x}{\sqrt{n}}$ t^* use $df = n - 1$
Formula for margin of error	$z^* \cdot \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$	$t^* \cdot \frac{s_x}{\sqrt{n}}$
General formula for confidence interval	Point Est \pm Marg. of Err	Pt. Estim \pm Marg. of Error
Specific formula for confidence interval	$\hat{p} \pm z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$	$\bar{x} \pm t^* \cdot \frac{s_x}{\sqrt{n}}$

Calculator \rightarrow Prop Z Int T Interval

When interpreting :

must include units

t^* from table

$df = 47$

Use lower
end z^*
(more conservative)

Tail probability p				
df	.10	.05	.025	.02
30	1.310	1.697	2.042	2.147
-40	1.303	1.684	2.021	2.123
-50	1.299	1.676	2.009	2.109
∞	1.282	1.645	1.960	2.054
	80%	90%	95%	96%
Confidence level C				

See your LCQ's

Advice: If any problems were not assigned
I recommend looking at the solutions
anyway.

When finished: Start Ch. 8 Review. 😊

