

MTH 244 Supplement to OpenStax College
Introductory Statistics

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You can find the *Open Intro Statistics* text for free at

https://www.openintro.org/download.php?file=os3_tablet&referrer=/stat/textbook.php.

Chapter 8

Confidence Intervals

8.1 Appropriate conditions to construct a confidence interval

Read Section 6.1: Inference for a single proportion, Section 6.1.1: Identifying when the sample proportion is nearly normally and Section 6.1.2: Confidence intervals for a proportion, in the Open Intro Statistics book, pages 275-276.

8.1.1 Conditions associated with a confidence interval for population means

For additional reading on when it is appropriate to use confidence interval for means, read Section 5.3.1: Conditions for using the t -distribution for inference on a sample mean, in the Open Intro Statistics book, page 223

8.1.2 Conditions associated with a confidence interval for population proportion

For additional reading on when it is appropriate to use confidence interval for means, read in the Open Intro Statistics book.

8.2 Perform a hypothesis test using a confidence interval

....in the Open Intro Statistics book.

8.3 Construct and interpret a confidence interval about the difference between two population means using two independent samples.

Read Section 5.3: Difference of two means and Section 5.3.1: Confidence interval for a difference of means, in the Open Intro Statistics book, pages 230-233.

After reading Sections 5.3 and 5.3.1 in the Open Intro Statistics book, go to the end of the chapter and try homework questions:

8.4 Construct and interpret a confidence interval about the difference between two population proportions using two independent samples.

Read Section 6.2: Difference of two proportions, Section 6.2.1: Sample distribution of the difference of two proportions and Section 6.2.2: Confidence intervals for $p_1 - p_2$, in the Open Intro Statistics book, pages 280-281.

After reading Sections 6.2, 6.2.1 and 6.2.2 in the Open Intro Statistics book, go to the end of the chapter and try homework questions:

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8.5. CONSTRUCT AND INTERPRET A CONFIDENCE INTERVAL ABOUT THE DIFFERENCE BETWEEN TWO POPULATION MEANS USING PAIRED SAMPLES. CHAPTER 8. CONFIDENCE INTERVALS

8.5 Construct and interpret a confidence interval about the difference between two population means using paired samples.

Read Section 5.2: Paired data and Section 5.2.1: Paired observations, pages 228-229 in the Open Intro Statistics book.

After reading Sections 5.2 and 5.2.1, in the Open Intro Statistics book, go to the end of the chapter and try homework questions:

8.6 Technology with confidence intervals

8.6.1 Input two independent samples and execute the commands to construct a two-sample difference of means confidence interval and interpret the output

8.6.2 Input two independent samples and execute the commands to construct a two-sample difference of proportions confidence interval and interpret the output

8.6.3 Input two paired samples and execute the commands to construct a one-sample confidence interval and interpret the output

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Chapter 14

ANOVA

14.1 Use a multiple comparisons method to determine which pairs of means differ; interpret the results

Read section 5.5.5: Multiple comparisons and controlling Type 1 Error rate, in the Open Intro Statistics book, pages 253-256.

Although honestly we don't do this...

14.2 Identify Marginal Probabilities

Do we need to do this? Feels like we already do it in MTH 243

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Chapter 13

Simple Linear Regression And Correlation

13.1 Check the conditions associated with constructing a least-squares linear regression model, and construct such a model

Read 7.2.2: Conditions for the least squares line, in the Open Intro Statistics book, page 341

13.2 Specify the probability distribution of the random error term, and estimate the standard deviation of this distribution.

I actually don't know what this means?

13.3 Construct and interpret a confidence interval to estimate the slope of the population regression model.

NOT in Open Intro

13.4 Technology for the least-squares line for estimation and prediction

13.4.1 Construct and interpret a residual plot

Read Section 7.1.3: Residuals, in the Open Intro Statistics book

13.4.2 Construct and interpret a confidence interval for the mean value of the response variable when the explanatory variable takes on a specific value.

13.4.3 Using technology, construct and interpret a prediction interval for an individual value of the response variable when the explanatory variable takes on a specific value.

13.4.4 Using technology, input sample data and execute the commands to produce a least-squares regression equation, a fitted line, a residual plot, and r^2 ; interpret the output.