

MINITAB TIPS

The data files from the textbook are located at:

<http://www.austincc.edu/mparker/software/data/>

How to construct graphs and calculate numerical summaries:

See HW0 (Calculator and Minitab Orientation)

Note for exercise 1.45(M)

How to do the time series plot:

Graph < Time Series Plot < Simple < OK

Series: bites

Click the Time/Scale button

Check Stamp

Stamp columns: year

OK, OK

Some Minitab commands for Scatterplots, Correlation, and Regression Analysis:

Graph < Scatterplot < Simple < OK

Select Y, Select X, OK

Stat < Basic Statistics < Correlation

Stat < Regression < Regression

Stat < Regression < Fitted Line Plot

Stat < Regression < Graphs < Residuals versus the variables < x

Drawing a SRS with Minitab

Exercise 8.28 on page 219

Sampling telephone area codes. There are approximately 341 active telephone area codes covering Canada, the United States, and some Caribbean areas. (More are created regularly.) You want to choose an SRS of 10 of these area codes for a study of available telephone numbers.

Solution:

Step 1: Populate column C1 with the numbers from 1 to 341

Calc < Make Patterned Data < Simple Set of Numbers
Store patterned data in: C1
From first value: 1
To last value: 341
OK

Step 2: Set a starting point (aka seed) for Minitab's random number generator.

(This is useful when you want to select the same random sample, or generate the same set of random data more than once.)

Calc < Set Base
Set base of random data generator to: 133 (a randomly chosen number)
OK

Step 3: Choose a SRS of size 10

Calc < Random Data < Sample From Columns
Sample **10** rows from column(s): C1
Store samples in: C2
OK

Result:

C2
209
267
203
309
150
166
26
306
31
185

Note for exercise 8.39(M)*:

Use Minitab to pull 20 men and 20 women
Use Table B to pull 3 men and 3 women

Note for exercise 9.33(M)*:

Use Minitab to pull 60 schools for the treatment group
Use Table B to pull 10 schools for the treatment group

Minitab commands for Confidence Intervals:

Stat < Basic Statistics < 1-Sample t
 Samples in columns: C1
 (or Summarized data: Type in the Sample size, Mean, Standard deviation)
 Options < Confidence level: Type the level, e.g. 95
 OK, OK

Minitab commands for Hypothesis Testing for means:

One Sample	Two Samples
Stat < Basic Statistics < 1-Sample t Samples in columns: C1 Test mean: Type the hypothesized value Options Confidence level: Type the level, e.g. 95 Alternative: Choose it OK, OK	Stat < Basic Statistics < 2-Sample t Samples in different columns (or Samples in one column or Summarized data) Options Confidence level: Type the level, e.g. 95 Alternative: Choose it OK, OK

Note: If you chose a one-sided alternative, the CI will also be one-sided.

Minitab commands for Hypothesis Testing for proportions:

One Sample	Two Samples
Stat < Basic Statistics < 1 Proportion Summarized data Number of trials: enter the sample size Number of events: enter the number of successes Options Confidence level: Type the level, e.g. 95 Test proportion: Type the hypothesized value, e.g. 0.5 Alternative: Choose it Check the box “Use test and interval based on normal distribution” OK, OK	Stat < Basic Statistics < 2 Proportions Summarized data Trials: enter the sample sizes Events: enter the numbers of successes Options Confidence level: Type the level, e.g. 95 Test difference: Type the hypothesized value, e.g. 0.0 Alternative: Choose it Check the box “Use pooled estimate of p for test” OK, OK

Note: If you chose a one-sided alternative, the CI will also be one-sided.

Minitab steps for performing a Chi-Square test

Example 22.1 on page 562

Type in the Minitab worksheet your data in the following format:

Age 19	Age 20	Age 21	Age 22
324	378	337	318
37	47	40	38
116	279	372	487
58	60	49	25
5	2	3	9

Stat < Tables < Chi-Square Test (Table in Worksheet)

Columns containing the table: Select Age 19, Age 20, Age 21, Age 22

OK

Note: With the current settings of Minitab, the output will contain the numbers 1, 2, 3, 4, 5 instead of Parents, Another, OwnPlace, Group, Other.

Minitab command sequence for Regression Analysis

Stat < Regression < Regression

Response: Select response variable

Predictors: Select explanatory variable(s)

Results

Check the button next to the desired output, OK

Options

Predictions intervals for new observations: Type the x value at which to predict, e.g. 16

Confidence level: Type the confidence level, e.g. 95

OK, OK

Stat < Regression < Fitted Line Plot

Stat < Regression < Regression < Graphs < Residuals versus fits
