Minitab Quick Reference

This is a quick guide to the commands we'll use and they unit where they'll be introduced. Each screen in Minitab has a help button you can click for additional help. This document is intended to get you to the right place in Minitab, not be a comprehensive guide of how to use it.

Unit 1: The Basics

Stat » Basic Statistics » Display Descriptive Statistics
Used to summarize numerical data, find the mean, standard deviation, variance, etc. The by variables is an optional variable used to group the data. Use the statistics button to change what values are displayed. In particular, we will often turn on the variance.

Graph
Almost all of the graphs except for the graphical summary are found here.
Numerical Data
- Histogram is the most common. There is a with fit option to see if the 68-95-99.7 rule applies.
- Dot plots, stem-and-leaf plots, and box plots are other options

Categorical Data
- Pie charts are the most common graph for categorical data. The category variable represents the labels on the slices of the pie.
- A bar chart is another option for categorical data when the values don't make 100% of the choices or you can select more than one option.

Stat » Basic Statistics » Graphical Summary
This is a graph with multiple plots that show a lot of the information about a numerical variable. It includes a numerical summary, histogram, confidence interval, and test for normality.

Calc » Calculator
Used to transform the data or generate new variables.

Unit 2: Probability

Calc » Make Patterned Data » Simple Set of Numbers
Create a list of numbers without having to type them all in.

Calc » Make Patterned Data » Text
Create a sequence using text. Separate your words with spaces. If there are spaces within your phrases, enclose them in quotes (Alien "American Pie" Jaws).

Calc » Random Data » Sample from columns
Useful for simulation purposes and sampling.

Calc » Probability Distributions » Binomial
Find binomial probabilities. The cumulative probability is the area to the left of the value and the probability is the chance of getting that value.

Graph » Probability Distribution Plot
Used to graph a distribution.

Calc » Probability Distributions » Normal
Find normal probabilities. This is easier done with the online probability calculator, but Minitab does allow you to specify a different mean and standard deviation.

Unit 3: Inferential Statistics

Stat » Basic Statistics

Almost everything we do in this unit is a choice under basic statistics.

Numerical Data

- 1 Sample t for confidence intervals for μ and hypothesis tests of form $\mu = 20$.
- 2 Sample t for hypothesis tests of form $\mu_1 = \mu_2$
- Paired t for hypothesis tests of form $\mu_d = 0$

Categorical Data

- 1 proportion for confidence intervals for p and hypothesis tests of form $p = 0.23$. Be sure to check "use normal approximation" under options.
- 2 proportions for hypothesis tests of form $p_1 = p_2$. Be sure to check "use pooled proportion" under options.

Graph » Probability Distribution Plot

Used to graph a distribution. Choose view probability when creating hypothesis testing graphs.

Graph » Probability Plot

Don't confuse this with the probability distribution plot. This is used to see whether a group of data has a particular distribution. We are usually checking for normality. The data has the distribution you're testing for if the points basically fall along the line with no systematic patterns or outliers.

Unit 4: Advanced Topics

Stat » Tables » Chi-Square Goodness-of-Fit Test (one variable)

Use this to perform the chi-square goodness of fit test.

Stat » Tables » Cross Tabulation and Chi-Square

Use this to perform a test for independence. Click the *chi-square* button and select the chi-square analysis.

Stat » ANOVA » One Way

Use this to perform a one-way ANOVA test. There should be two columns, one for the factor (grouping) variable and one for the response (numerical) variable. If you created a variable for each group, then use the unstacked test.

Stat » ANOVA » Two Way

Use this to perform a two-way ANOVA test. There should be three columns, two grouping variables for the row and column factors and one for the response (numerical) variable.

Graph » Scatterplot

Used to graph two paired numerical variables.

Stat » Basic Statistics » Correlation

Used to perform correlation between two or more variables.

Stat » Regression » Regression

Used to perform both simple and multiple linear regression.