Chapter 19: 1-Proportion command in Minitab 17

for confidence intervals and hypothesis tests on one mean

In this document, find

- Computing the p-value for a hypothesis test on one mean
- Computing a confidence interval of one mean
- Choosing to graph the data, if you have a full dataset instead of summarized data

The first step is to choose the menu Stat > Basic Statistics and then make an appropriate choice for your data. For one proportion it is the 1-Proportion command.

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i 🗃 🔒 i 🕹 i 🖞 🛅	Basic Statistics	🔢 Display Descriptive Statistics 🗅 📺 🛒
	Regression •	5 Store Descriptive Statistics
	ANOVA	≜≕ <u>G</u> raphical Summary
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	Control Charts	µ 1-Sample t
	Quality Tools	μ_ 2-Sample t
	Reliability/Survival	μ·μ Paired t
	Multivariate	
	Time <u>S</u> eries	1 Proportion
	Tables	2 Proportion
	Nonparametrics	λ_ 1-Sample P 1 Proportion
	Equivalence Tests	2-Sample P Determine whether the proportion of an event observed in a sample differs
	Power and Sample Size ►	σ^2 1 Variance significantly from a specified value.

You must choose whether you are giving it a full data-set in one of the columns of the worksheet or whether you are ignoring all columns in the worksheet and just giving the summary statistics of your data.

To the right here is the worksheet for a full dataset.

Our text does not give any full datasets for proportion problems, but only gives summarized data. Thus, I will illustrate only summarized data in this handout.

In our sample, we have 38 successes out of 91 trials. This is summarized data.

On the following page, see how to test a hypothesis and how to form a large-sample confidence interval and a "plus-four" confidence interval.

Note that, in this course, we always choose the "Normal approximation."

Worksheet 1 ***				
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2	Red			
3	Red			
4	Red			
5	Blue			
~	Plus			

We will test Ho: p = 0.40 versus Ha: p > 0.40.

One-Sample Proportion	One-Sample Proportion
Summarized data	Summarized data
Number of events: 38	One-Sample Proportion: Options
Number of trials: 91	Confidence level: 95.0
	Alternative hypothesis: Proportion > hypothesized proportion
Perform hypothesis test	Method: Normal approximation
Hypothesized proportion: 0.4	Help OK Cancel
Select Options	Select
	Help OK Cancel

Form a 76% large-sample confidence interval for the population proportion.

The same dialog boxes are used to do a confidence interval. But some different choices are entered.



Form an 76% "plus-four" confidence interval for the population proportion. Change the entries for the data: Enter 38 + 2 = 40 and 91 + 4 = 95

One-Sample Proportion	
	Summarized data
	Number of events: 40
	Number of trials: 95
	C Deefers humathasis test
	Hypothesized proportion:
Select	Optio <u>n</u> s
Help	<u>O</u> K Cancel

Or	ne-Sample Proportion
	Summarized data
	One-Sample Proportion: Options
	Confidence level: 76
	Alternative hypothesis: Proportion ≠ hypothesized proportion ▼
	Method: Normal approximation
L	Help <u>QK</u> Cancel
	Select
	Help QK Cancel
	Confidence level: 76 Alternative hypothesis: Proportion + hypothesized proportion Method: Normal approximation Help QK Cancel Help QK Cancel