

# Graphing Assignments

## Math 113 - Introduction to Applied Statistics

Use Minitab to create the graphs that follow. Try to make the graphs look as close as you can to mine, but part of the process is to get you to play around, so colors and exact positioning aren't crucial. Do not close your graph from within Minitab. Instead, save your data and graphs as a project in case you need to open it and make changes. If you close the graph and then save, it will be lost.

**You may work with one other person on each of these graphing assignments. If you do, put both people's name at the top.** You do not have to work with anyone else, but you may find it useful to have someone to reason through the process with you. Make sure you understand what is going on as you will need to recreate some of these graphs for your semester project.

For each document:

1. Create the graphs in Minitab. Feel free to reflect your individuality by changing the fonts, colors, or shading. Save your Minitab project.
2. Create a new Word document. Type your name(s) at the top of each document. Even though your name is on the email, it also needs to be in the assignment.
3. Type the title that appears at the top of the page.
4. Copy the graphs from Minitab and paste them into the Word document.
5. Save the Word document.
6. Email the document to the instructor at james@richland.edu

You do not need to type the extra text that is on the page. I'm interested in the graphs.

**If you fail to type your name on the document, you will lose 1 point.** Don't type [the hints or the reminders](#) at the bottom of each page.

Each graphing assignment is worth 10 points. The assignments are due before the beginning of class on the day of the exam for that material.

Late work will be accepted but will lose 20% of its value per class period.

If I receive your emailed assignment more than one class period before it is due and you don't receive all 10 points, then I will email you back with things to correct so that you can get all the points. Any corrections need to be submitted by the due date and time or the original score will be used.

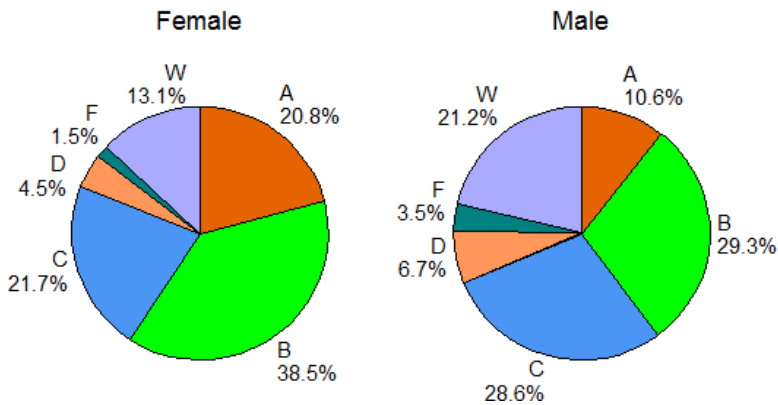
[Remember to put your name at the top of the page](#)

# Graphing Assignment 1: The Basics

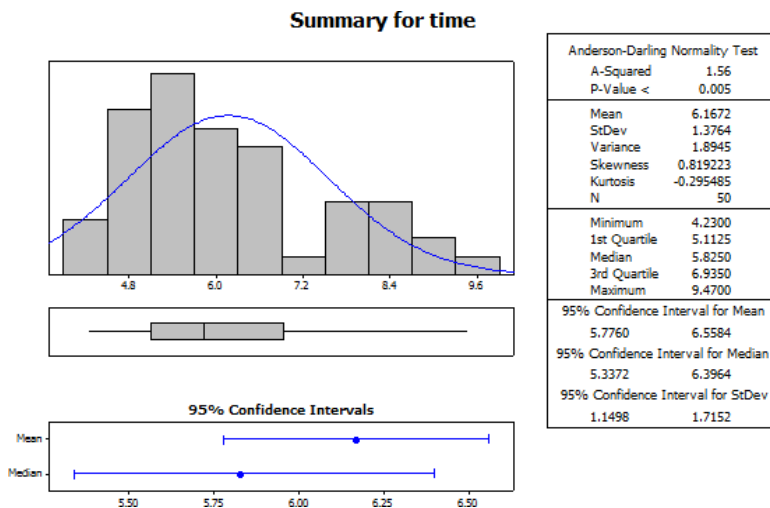
- The breakdown of grades earned in all Math 113 sections taught by James Jones are shown in the table. Use Minitab to create a side-by-side pie chart of the grade distribution as a percent by gender. You may need to drag the individual labels so they don't overlap.

Grade	Female	Male
A	140	46
B	259	127
C	146	124
D	30	29
F	10	15
W	88	92

**Math 113 Grades**



- Use the four legged walk data to create a graphical summary of the *time* variable. If there is more than one section of the class, include the data from all sections. Your graph will be similar to this one, but the numbers will be different since you'll be using your data. The graphical summary command is under basic statistics, not under graph.

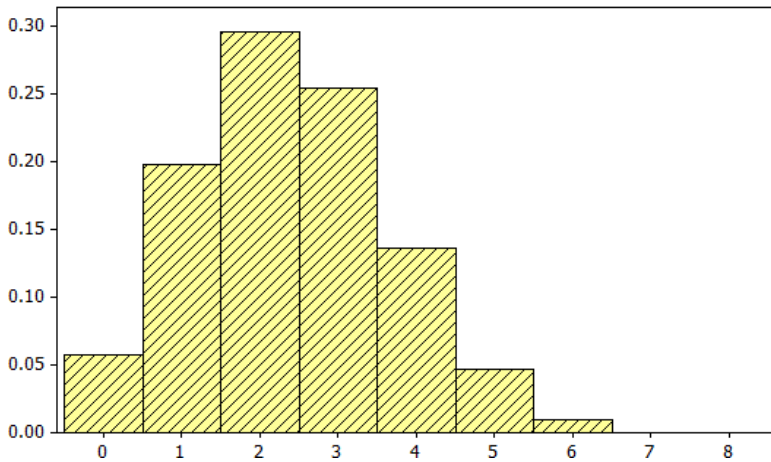


Remember to put your name at the top of the page

## Graphing Assignment 2: Probability

1. Create a graph of the binomial distribution when  $n = 8$  and  $p = 0.3$ .

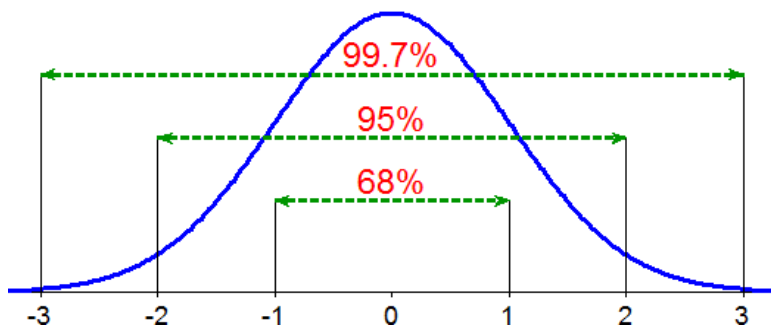
**Binomial Distribution**



2. Create a graph illustrating the 68-95-99.7 rule.

*Optional: To get the graph to flatten out, specify a maximum y value of 0.6.*

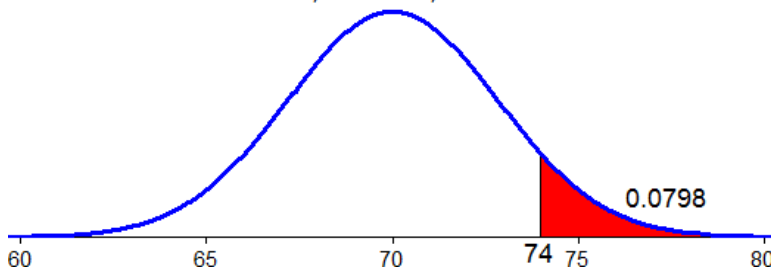
**Empirical Rule**



3. The heights of men aged 18-25 follow a normal model with a mean of 70.02 inches and standard deviation of 2.83 inches. Find the probability that a randomly selected male will be at least 74" tall. *Optional: use a maximum y of 0.25 to flatten the graph.*

**Heights of Men**

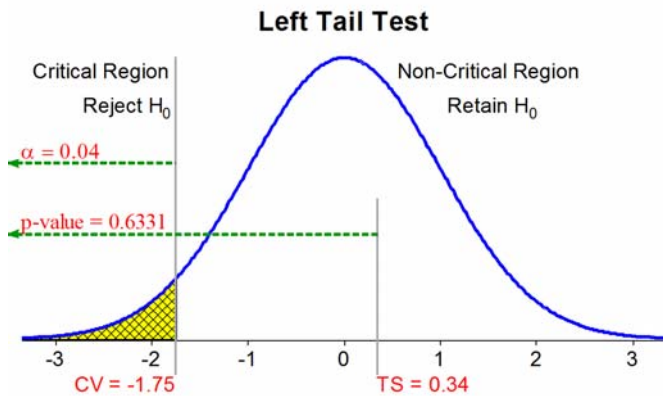
Normal, Mean=70.02, StDev=2.83



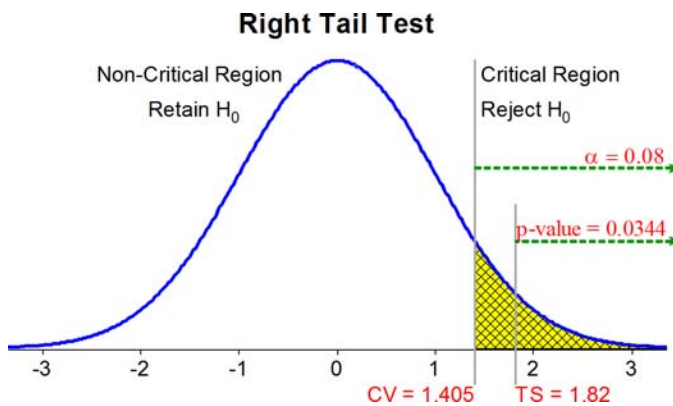
### Graphing Assignment 3: Inferential Statistics

To get the alpha, type the letter a and then change the font to Symbol. To subscript the 0, use a separate text box with a smaller font. All graphs use the normal distribution.

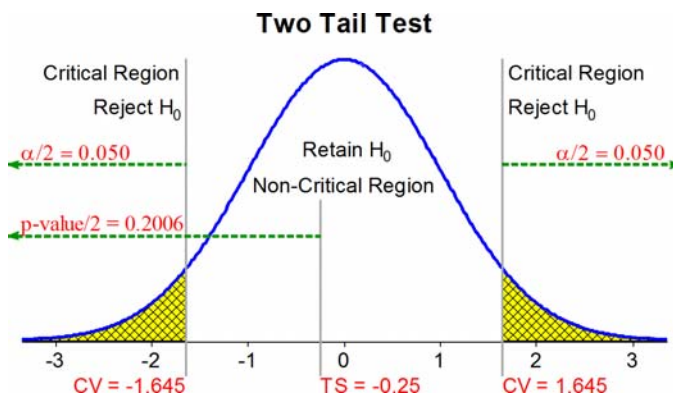
1. Left tail test with  $\alpha = 0.04$ , CV:  $z = -1.75$ , TS:  $z = 0.34$ , p-value = 0.6331



2. Right tail test with  $\alpha = 0.08$ , CV:  $z = 1.405$ , TS:  $z = 1.82$ , p-value = 0.0344

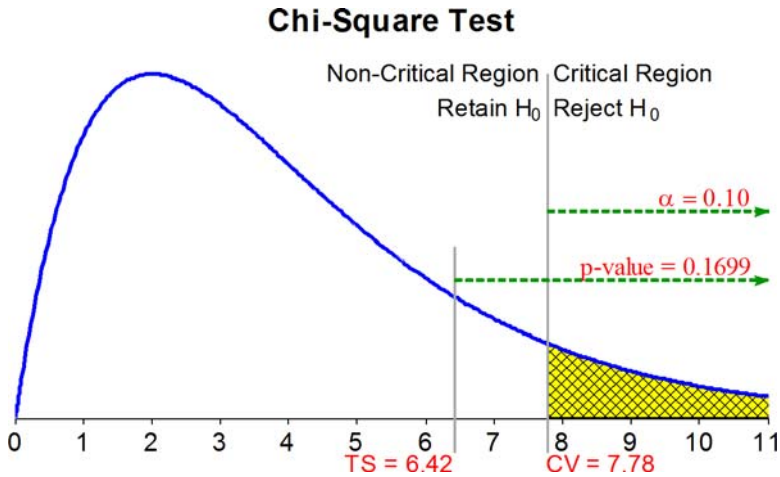


3. Two tail test with  $\alpha = 0.10$ , CV:  $z = \pm 1.645$ , TS:  $z = -0.25$ , p-value = 0.4012



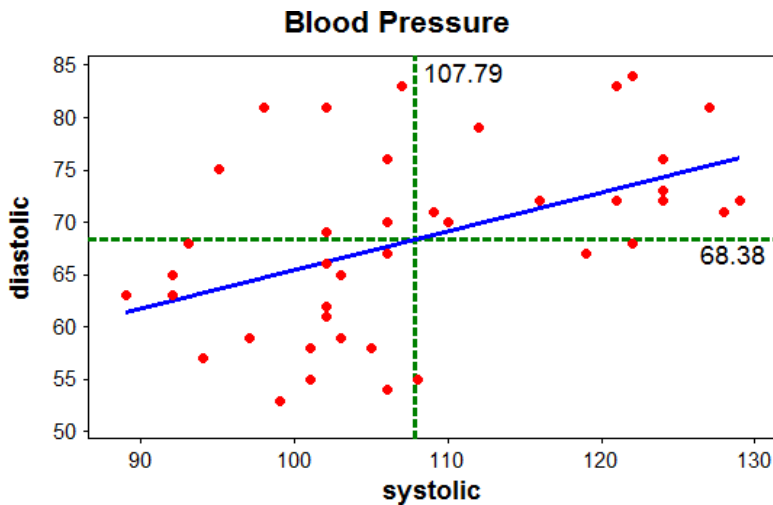
# Graphing Assignment 4: Advanced Topics

1. A chi-square test with 4 df,  $\alpha = 0.10$ , CV:  $\chi^2 = 7.78$ , TS:  $\chi^2 = 6.42$ , and p-value = 0.1699



2. Create a scatterplot of your response and predictor variables from the blood pressure activity. *If there is more than one section, include the data for all sections. Your graph will be similar to this one. The reference lines at 107.79 and 68.38 are the means for each variable.*

Be sure to use your variables from the activity and not the ones shown below.



Remember to put your name at the top of the page