Name: _____

Due: Wednesday, May 1 during 1st half of class

Lab #8 – Cañada College Sp13

Instructions: For all the questions below the data you must:

a) *Explicitly state H_0 & H_A using correct notation,*
b) *Give the correct critical value &/or test statistics (work too)*
c) *Represent on alpha &/or critical value and test statistic on a diagram*
d) *State the decision using reject & accept H_0 & H_A as appropriate*
e) *Correctly state the conclusion using the wording in the original question & either CL or alpha*

Data Set #1: The following data represents the reported heights (in inches) of 17 men. Men's heights are known to be normally distributed with a standard deviation of 2.5 inches.

67.5, 65, 69, 67, 70.5, 73, 68, 69, 66, 69, 66, 67.5, 69, 69, 73.5, 70, 72

Data Set #2: The following data represents the reported heights (in inches) of 15 women. Women's heights are known to be normally distributed with a standard deviation of 2.8 inches.

60, 67, 64, 59, 62, 67, 65, 66.5, 66, 65, 63, 61, 67, 65, 67

Data Set #3: An on-line poll of 1,403 smartphone/cellphone users was conducted in 2009 and it was found that 239 of those polled used their smartphone/cellphone to access the internet on a daily basis. (Adapted from Skuce, *Data and Making Decisions: Statistics for Business*, Excel Ed 2, p. 275)

Data Set #4: The following data represents a sample of lead content in ppm for filets of trout and whitefish taken from the Spokane River in Washington State (Adapted from Reference: Johnson, A. (2000), Results from Analyzing Metals in 1999 Spokane River Fish and Crayfish Samples; Washington State Dept. of Ecology report #00-03-017; Web Site: http://www.ecy.wa.gov/biblio/0003017.html)

0.48, 0.071, 0.11, 0.32, 0.12, 0.22, 0.055, 0.32,
0.077, 0.081, 0.170, 0.13, 0.11, 0.081, 0.098, 0.18,
0.23, 0.082, 0.210, 0.2, 0.025, 0.038, 0.02, 0.02,
0.065, 0.037, 0.02, 0.02, 0.02, 0.036, 0.02

Question 1: At the 95% confidence level, using a traditional method, test the claim that the average men's heights are different from Triola's supposed average height of 69.0 inches (data set #1).

Question 2: Use a significance level of 1%, and the confidence interval method, to test the claim that women's heights less than Triola's supposed average height of 63.6 inches (data set #2).

Questions 3: Use a 99% confidence level to test the claim that men are taller than women (data set #1 & #2).

Question 4: At a 5% significance level, using a p-value test, test the claim that more than 15% of smartphone/cellphone users access the internet with their smartphone/cellphone on a daily basis (data set #3).

Question 5: At the 90% confidence level, using the method of your choice, test the hypothesis that the average lead content of a filet is less than that of whole fish which is assumed to be 0.65 ppm(data set #4).