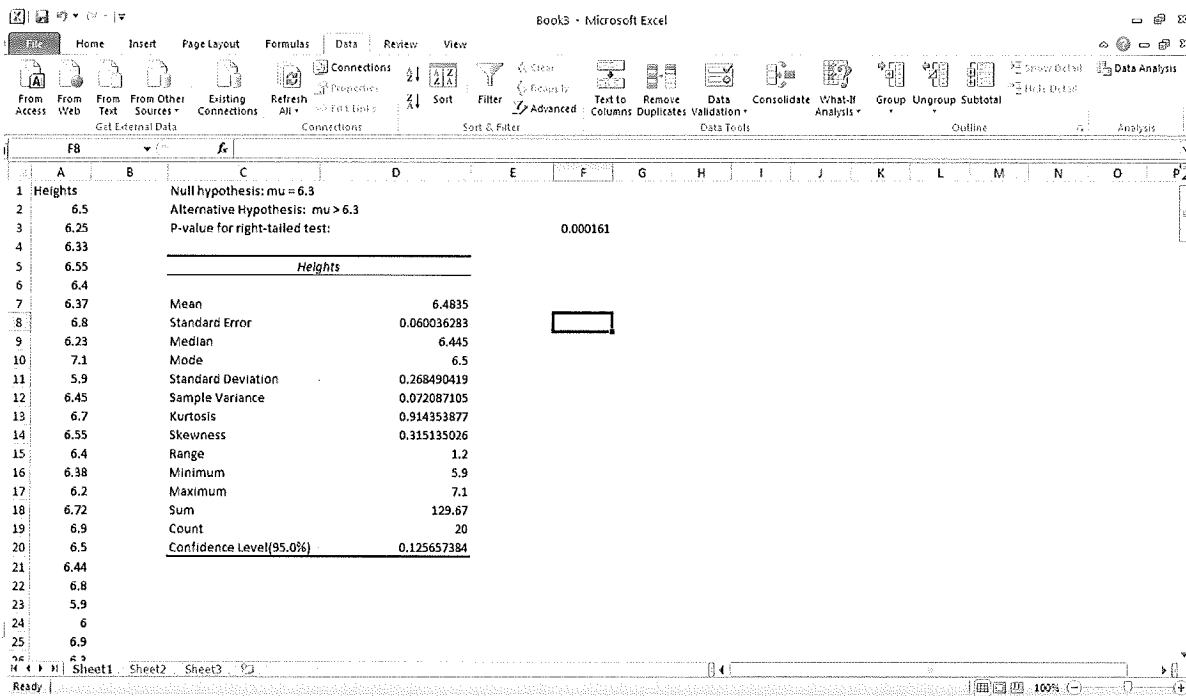




LAB ACTIVITIES FOR TESTING A SINGLE POPULATION MEAN

1. Open or retrieve the worksheet Sv04.xls from the student website. The data in Column A of this worksheet represent the miles per gallon gasoline consumption (highway) for a random sample of 55 makes and models of passenger cars (source: Environmental Protection Agency).

30	27	22	25	24	25	24	15
35	35	33	52	49	10	27	18
20	23	24	25	30	24	24	24
18	20	25	27	24	32	29	27
24	27	26	25	24	28	33	30
13	13	21	28	37	35	32	33
29	31	28	28	25	29	31	

Test the hypothesis that the population mean mile per gallon gasoline consumption for such cars is greater than 25 mpg.

- (a) Do we know σ for the mpg consumption? If not, use the value of s for the value of σ (sometimes this is done in practice when sample size is large.) Can we use the normal distribution for the hypothesis test?
- (b) State the null and alternate hypothesis and type them on your worksheet.
- (c) Use Z.TEST with Sigma omitted.
- (d) Look at the P value in the output. Compare it to α . Do we reject the null hypothesis or not? Does it depend on the level of significance?
- (e) Use the Descriptive Statistics dialog box to generate the summary statistics for the data, and place the results on the worksheet.