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MATH 1342
Quiz 8.4

A researcher surveys 40 grocery stores in the DFW region and calculates the mean weight (in ounces) of Golden Delicious apples at each store. The distribution of these 40 samples of the mean weights had an average of 5.7 ounces with a standard deviation of 0.25 ounces. From this, the researcher constructs a 95% confidence interval for the average weight of all such apples sold in that region. The confidence interval generated (in ounces) is $(5.21, 6.19)$.

(1) An apple growers association claims that Golden Delicious apples sold in the DFW region have an average wieght of 6 ounces. Is this a reasonable claim given the confidence interval generated by the researcher? Explain your answer.

(2) If the population standard deviation of the weight of Golden Delicious apples is assumed to be 1.58 ounces, then use the researchers sample results to test the growers association's claim that the average weight is 6 ounces. That is, let $H_0 : \ \mu = 6$ and $H_a : \ \mu \neq 6$. Use $\alpha = .05$ and explain how the results of this hypothesis test either support or do not support your answer in part (1).