1) Consider 2 independent populations with unknown variance for which we have no reason to believe the variances are equal to one another. Summary statistics of a sample are below

	Population 1	Population 2
Sample size	17	14
Sample mean	3004	2538
Sample standard deviation	74	56

Assume both populations are normal with unequal variances, and use 95% confidence.

a) Find the appropriate degrees of freedom
b) What is the confidence interval for the difference in the two means at 95%?

2) Consider a population that is normal with unknown mean and variance. There is a sample of 25 with the following statistics?

$$\bar{x} = \$172.50 \; and$$
$$s = \$15.40.$$

That is the sample mean if 172.50 and the sample standard deviation is 15.40. You believe the variance of the population is 250. Test your belief at the 95% level of confidence. Show your work and let us know if you believe you were correct.