Name: _____
Date: _____

Unit 9 Quiz

This is an open note, take home quiz. **These questions are very relevant for the test!**

You will need to watch the end of the lecture video where I go over this content! Submit by 5pm if possible (slightly later than said in class)!

Answer the following 3 questions. **Show your work (or explain your calculations)**.

Setup: A new college student wants to purchase a new laptop and is deciding whether to buy a Windows laptop or a Mac laptop. He is open to any model of laptop and wants to compare prices of Windows vs Macs. Assume prices of Windows and Mac laptops are normally distributed.

From a random sample of 12 Windows laptops, there was an average price of $760 and standard deviation of $130. From a random sample of 9 Mac laptops, there was an average price of $1,100 and a standard deviation of $200.

a) **Determine** if it is appropriate to construct a Confidence Interval for the difference in prices?

b) **Construct** and **Interpret** the corresponding 95% Confidence Interval for the difference in prices.

c) Lets say we to conducted a hypothesis test using the following hypotheses:

$$H_0: \mu_{Windows} - \mu_{Mac} = 0$$
$$H_A: \mu_{Windows} - \mu_{Mac} \neq 0$$

Based on your Confidence Interval from **part (b)** (so don't actually do the test), would you reject or fail to reject H_0? **Explain** why.