**Discrete Math**
**Quiz 9**

**Name:**_____

You have 10 minutes to complete this quiz. You may not use any unauthorized sources and you may not communicate with others about the exam. If you have a question raise your hand and remain seated. In order to receive full credit your answer must be **complete**, **legible** and **correct**. Show your work, and give adequate explanations.

1. Define the following:
   (a) *proof*

   A proof is a finite sequence of statements where each one follows from earlier statements using an accepted rule of deduction.

   (b) *theorem*

   A theorem is a statement that is the last statement in a proof.

2. Give an example of a deduction where the rule *modus ponens* is used.

Modus ponens is the rule $\frac{P, P \to Q}{Q}$. A symbolic deduction where modus ponens is used is:

$$P, P \to Q, Q.$$

A deduction written in natural language where where modus ponens is used is:

It is raining. If it is raining, then the ground is wet. The ground is wet.