Analysis 1
Quiz 0

Name:_____

You have 10 minutes to complete this quiz. 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. What is the definition (within set theory) of "the natural numbers"?

The natural numbers is the least inductive set.

2. Write down a formal sentence that is true in a structure exactly when the structure has one element.

$(\exists x \exists y (x \neq y)) \wedge (\forall p \forall q \forall r ((p = q) \vee (p = r) \vee (q = r)))$

The part involving x and y says that there are at least two distinct elements. The part involving p, q and r says that there are at most two distinct elements.