

## Analysis 1

### Quiz 1

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

$$(\forall x)(\forall y)(x = y)$$

2. The formal sentence “ $(\forall m)(\exists N)(\forall i)((i > N) \rightarrow (|a_i| < \frac{1}{m}))$ ” expresses what property of the sequence  $(a_i)_{i \in \mathbb{N}}$ ?

$(a_i)_{i \in \mathbb{N}}$  is a null sequence.