

## Set Theory Quiz 3

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. Is it possible for a binary relation on a set  $A$  to be both an equivalence relation and a partial order? (If so, how?)

It IS possible, but in only one way: the equality relation on  $A$  is both an equivalence relation on  $A$  and a partial order of  $A$ .

(The equality relation on  $A$  is  $\{(a, a) \in A \times A \mid a \in A\}$ .)

2. Define *inductive set*.

A set  $x$  is inductive if  $0 \in x$  and  $x$  is closed under the successor operation.