MAT 141
Quiz #2

September 23, 2004

Intructions: You have 15 minuntes for this quiz. You may not use any books, notes, or calculators. Justify every statement that you make. If you wish to use a theorem proved in class, state the theorem precisely. Good luck.

Definitions: An integer, x, is *even* if it is divisible by 2; that is, if $x = 2y$ for some integer y. We say that x is *odd* if $x + 1$ is even.

Prove (by induction) that every positive integer is either even or odd.