

Name: \_\_\_\_\_

**(Supp-6)** Show that no integers of the form  $k^2 + 1$  are a multiple of 7.

Hint: In the context of equivalence mod 7, this would be equivalent to saying *no integer  $k$  satisfies the congruence equation  $k^2 + 1 \equiv 0 \pmod{7}$* .