Math 304 Homework 11

Your name goes here

Due December 7, 2018

Theorem U. Let G be a group and for all $g \in G$, define $g^0 = e$. Then.

1. There is a unique identity element $e \in G$.
2. Inverses are unique in G.
3. For all $n \geq 1$, $(g^{-1})^n = (g^n)^{-1}$.
4. For all $g, h \in G$, $(gh)^{-1} = h^{-1}g^{-1}$.

Proof. $\square$

Theorem V. Let G be a finite group with more than one element. Then G has an element of prime order.

Proof. $\square$