

MAT 563 HOMEWORK 7: DUE WEDNESDAY, MAR. 19

- (1) Let G be a group of order 294. Prove that G is not simple.
- (2) Let G be a group of order $182 = 13 \cdot 7 \cdot 2$. Prove that G has a normal subgroup of size 91.
- (3) Prove that no group of order 80 is simple.
- (4) Let G be a group of order $11^2 \cdot 13^2$. Prove that G is abelian.
- (5) Solve problem 1 on page 99 (Semidirect Products).