

MATH 420-620
FALL 2012
HOMEWORK 9

Due Wednesday October 31, 2012.

1. (5 pt) Let p be a prime integer. Show that any group of order p^2 is abelian.
2. (5 pt) Find the smallest *odd* integer such that there is a nonabelian group of order n .
3. (5 pt) Classify all groups of order n where n is the answer from number 2.
4. (5 pt) Classify all abelian groups of order 64.
5. (5 pt) Let G and H be groups. Show that $Z(G \times H) = Z(G) \times Z(H)$