

Homework 6

due November 13, 2001

- (1) Dummit, Foote Section 5.2 Exercise 7 (page 168)
- (2) Dummit, Foote Section 5.4 Exercise 11 (page 176)
- (3) Dummit, Foote Section 5.4 Exercise 15 (page 176)
- (4) If a group G is the direct product of its subgroups H, K , then $H \cong G/K$ and $K \cong G/H$.
- (5) Every group of order 12, 28, 56, and 200 must contain a normal subgroup and hence is not simple.
- (6) Let G be a group of odd order and H a normal subgroup of G with 3 elements. Show that H is central.
For which primes other than 3 does your argument work?