

Homework #6

Last Name: _____

Name : _____

PSID: _____

TRANSITION TO ADVANCED MATHEMATICS
HOMEWORK#6 – DUE THURSDAY, 03/22

Problem 1. Prove that every natural number $n > 1$ has a prime divisor.

a) Using the Principle of Complete Induction.

b) Using the Well-Ordering Principle.

Problem 2. Exercise 2.5: Problem 5(a).

Problem 3. Exercise 2.5: Problem 6(c, d).

Problem 4. Exercise 2.6: Problem 2.

Problem 5. Exercise 2.6: Problem 11.

Problem 6. Exercise 2.6: Problem 12 - Use PMI.

Problem 7. Exercise 3.1: Problem 1.

Problem 8. Exercise 3.1: Problem 2(b, d, f).

Problem 9. Exercise 3.1: Problem 4(b, d).

Using the relations R_2 and R_4 , compute $R_2 \circ R_4$ and $R_4 \circ R_2$.

Problem 10. Exercise 3.1: Problem 13.