

## (Math 170) Homework 3:

Due October 2, 2008

Exercise 1: Prove there is no largest odd number (hint use proof by contradiction)

Exercise 2: Find the greatest common divisor of 7920 and 8316 (hint  $7920 = 2^4 \cdot 3^2 \cdot 5 \cdot 11$  and  $8316 = 2^2 \cdot 3^3 \cdot 7 \cdot 11$ )

Exercise 3: Use Euclid's Algorithm to find the greatest common divisor of 308 and 238

Exercise 4: Use Euclid's Algorithm to find numbers  $x$  and  $y$  such that

$$308 \cdot x + 238 \cdot y = \gcd(308, 238)$$

Exercise 5: Heart of Mathematics Chapter 2.3 Exercise 21

Exercise 6: Heart of Mathematics Chapter 2.3 Exercise 23

Exercise 7: Heart of Mathematics Chapter 2.3 Exercise 24

Exercise 8: Heart of Mathematics Chapter 2.3 Exercise 26

Exercise 9: Heart of Mathematics Chapter 2.3 Exercise 29

Exercise 10: Heart of Mathematics Chapter 2.3 Exercise 33