PMAT 3370 – Number Theory — Assignment #1
Fall 2006

Instructions

- Answer each question completely; justify your answers.
- This assignment is due at:

1. Exercise 1.4.
2. Exercise 1.8.
3. Exercise 1.11, parts (a), (c), and (e).
4. Exercise 1.12.
5. Exercise 1.18.
6. Prove that there do not exist integers m and n such that $14m + 20n = 101$.
7. Prove that there do not exist prime numbers a, b, and c such that $a^3 + b^3 = c^3$.
8. Prove that there do not exist three consecutive natural numbers such that the cube of the largest equals the sum of the cubes of the other two.