**Section 2.1**

**Part One**

Define the following vocabulary words.

* theorem
* proof
* axioms
* proof by exhaustion
* counter example

**Part Two**

For each of the following theorems either prove by direct proof or disprove by counterexample

1. There is a perfect square that can be written as the sum of two other perfect squares.
2. There is an integer n such that 2n2 – 5n + 2 is prime.
3. For all real numbers a and b, if a<b then a2 < b2
4. For all integers n, if n is odd then (n-1)/2 is odd.
5. For all integers m and n, if 2m + n is odd then m and n are both odd.