Problem Set 1   **Foundations**   **Due 1/15/2010**

Four of these problems will be graded, with each problem worth 5 points. Clear and complete justification is required for full credit. You are welcome to discuss these problems with anyone and everyone, but must write up your own final submission without reference to any sources other than the textbook and instructor. Submissions must be on clean paper with no ragged edges.

1. The sum of an even and an odd integer is odd.

2. If a^2 is an odd integer, then a is an odd integer.

3. If a is an integer for which a^2 is odd, then a is odd.

4. The sum of a throdd number and a throdd number is throddodd.

5. The cube of a throdd number is throdd.

6. If n, a, and b are integers for which n divides $a + b$ and n divides a, then n divides b also.