MATH 210, Section 1

Problem Assignment 3 February 10, 2012 Due Wednesday, February 15

For each of the following quantified statements, state whether it is true or false. Then prove or disprove it accordingly.

1. Every odd integer greater than 1 is prime.
2. There exists a positive integer m such that for every positive integer n, $n \geq m$.
3. There exists a positive rational number m such that for every positive rational number n, $n \geq m$.
4. Every odd integer is a sum of three odd integers.
5. Every polynomial $p(x)$ with rational coefficients has a real root.*

Extra Credit. Disprove this: Every odd integer is deficient.

* Note that the entire expression $p(x)$ is considered to be a single symbol representing a polynomial.