

Math 2534 Methods of Proofs (Part 1)
(Valid Proof or Counter Example)

- 1) The sum of any even integer and any odd integer is odd.
- 2) The product of any two odd integers is odd.
- 3) If n is odd then n^2 is odd.
- 4) The product of an odd integer and an even integer is even.
- 5) If n is prime then n^2 is also prime.
- 6) If $2n + 1$ is odd then $2n - 1$ is also odd.
- 7) The difference of any even integer minus any odd integer is odd.
- 8) The product of two rational numbers is rational.
- 9) The sum of two rational numbers is rational.
- 10) Consecutive integers have opposite parity.
- 11) The product of any two consecutive integers is even.
- 12) If n is a natural number then $n^3 - n$ is even.
- 13) Given an integer n , n is odd implies $7n + 4$ is even.
- 14) For all positive integers n , if n is prime then n is odd.