Math 204- Discrete Mathematics, Spring 2010

Quiz 5, April 12, 2010, 15:40 group

Time: 20 minutes

Write your solutions clearly, provide explanation, etc.
Do not forget to write your name and ID No on top of the page!

Problem 1 (10 pts). Prove that 4 divides $3^{2n-1}+1$ for ll $n \geq 1$.

Problem 2 (5 pts each). For any integer $n \geq 1$, consider the sum $1+3+5+\cdots+2n-1$.

a. By checking small n values guess a formula (closed form) for this sum.

b. Prove your guess by induction.