

**Math 301****Quiz 7**

10 points possible.

1. (5 pts.) Use mathematical induction to prove that

$$1 + 3 + 5 + \cdots + (2n - 1) = n^2$$

for all integers  $n \geq 1$ .

2. (5 pts.) Use mathematical induction to prove that  $2^{4n} - 1$  is divisible by 15, for all integers  $n \geq 1$ .