## Math 2534 The Outline for a PMI Proof.

The Correct write up will include complete sentences and the following outline:

- 1) Domain is always the natural numbers (zero may be included)
- 2) Statement of the Theorem in **complete sentences**.
- 3) Verification of base cases (Elements in the truth set) Use complete sentences to explain why you are doing the calculations. Show that for at least one value a , P(a) is true.
- 4) Assume true up to some arbitrary natural number k. (the inductive assumption) For all natural numbers  $a \le n \le k P(n)$  is true
- 5) State intent to prove true for the k+1 term. (Be sure to show what the results should look like.) IF P(k) is true, then P(k+1) is true.
- 6) Body of proof: Justify each step using sentences to tie work together.
- 7) Statement of conclusion: Since I have assumed true up to k and proved true for k+1, my hypothesis is true for all natural numbers for n > ??.