Problem Set One

1. Find the rank of the sentence (((((¬A ∨ B) & C) → A), where A, B, C are propositional variables.

2. Find a general formula for the total number of sentences of rank ≤ n.

3. Show by induction on sentences that the number V(C) of occurrences of propositional variables in a formula C is always one more than the number B(C) of occurrences of binary connectives.

4. Give a deduction showing that \{A → C, B → C\} ⊢ (A ∨ B) → C.

5. Demonstrate the Soundness of the Rule of →-Elimination.

Due Monday, September 18.