Handout 1

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1 Problem 1

Theorem 1. *Prove that for any tree, the number of edges is one less than the number of nodes, i.e., n - m = 1.*

Proof. □

2 Problem 2

Theorem 2. *Prove that such an algorithm cannot possibly exist.*

Proof. □

3 Problem 3

Theorem 3. *Prove that a bishop placed on that square can go to any black colored square on the chessboard.*

Proof. □

4 Problem 4

Theorem 4. *Prove that this new board cannot be tiled with dominoes|that is, any attempt to cover the chessboard with dominoes must always have either an uncovered square or a domino hanging off the edge.*

Proof. □