

IS 2150 / TEL 2810

Introduction to Security



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Mathematical Review
Security Policies



Objective

- Review some mathematical concepts
 - Propositional logic
 - Predicate logic
 - Mathematical induction
 - Lattice



Propositional logic/calculus

- Atomic, declarative statements (propositions)
 - that can be shown to be either TRUE or FALSE but not both; E.g., “Sky is blue”; “3 is less than 4”
- Propositions can be composed into compound sentences using connectives
 - Negation $\neg p$ (NOT) highest precedence
 - Disjunction $p \vee q$ (OR) second precedence
 - Conjunction $p \wedge q$ (AND) second precedence
 - Implication $p \rightarrow q$ q logical consequence of p
- Exercise: Truth tables?