

HON 210 Exam I Review Topics

- I. Background
 - a. Earliest Games and Puzzles
 - b. Ostomachion or Stomachion
 - c. Tower of Hanoi
 - d. Magic Squares
 - e. Tanagrams
 - f. Hounds and Jackals
 - g. First die
 - h. Gambling acceptance
 - i. Problem of Points
 - j. hexaflexagon
- II. People
 - a. Charles L. Dodgson
 - b. Sam Loyd
 - c. Henry Dudeney
 - d. Martin Gardner
 - e. Raymond Smullyan
 - f. John Conway
- III. Methods
 - a. Hypotheses
 - b. Arguments/Premises/Conclusions
 - c. Charts
 - d. Tables
 - e. Trees (nodes, branches, path, Multiplication Principle)
 - f. Cases
 - g. Steps in Problem Solving
 - i. What is given and what is sought? Label.
 - ii. Draw pictures, charts, diagrams, etc.
 - iii. Add to list what you logically deduce with justifications.
 - iv. Continue until you find solution or reach impasse.
 - v. If an Impasse, test cases and/or alternatives. Exhaust all possibilities.
 - vi. Check answer against given information.
- IV. Logic
 - a. Knights and Knaves/Truth-tellers and Liars
 - b. Liar's Paradox: "This sentence is false."
 - c. Princess or Tiger
 - d. Asylum and Vampire Problems
 - e. Syllogism
 - f. Statements/proposition
 - g. Variables
 - h. Connectives
 - i. Binary vs. Unary
 - j. Truth Tables
 - i. Negation

HON 210 Exam I Review Topics

- ii. Conjunction
- iii. Disjunction
- iv. Conditional – See page 45 for English forms
- v. Biconditional
- vi. Contrapositive
- vii. Converse
- viii. Morgan's Laws
- ix. Compound statements
- x. Drawing conclusions
- xi. Equivalence
- xii. Tautology
- xiii. Validity