MAT-CSC A67: Discrete Mathematics — Summer 2024

Quiz 1

Due Date: Monday, May 13, 11:59 PM, on Crowdmark

Q1. Consider the compound logical proposition "John is wealthy, but he is not both healthy and wise." Find the correct symbolic form using the logical connectives, and the indicated letters to represent component statements. Let $h =$ "John is healthy," $w =$ "John is wealthy," and $s =$ "John is wise."

Q2. Show the truth table for $\neg(p \wedge q)$.

Q3. Use DeMorgan's Laws to write the negation of the statement: "Hal is a math major and Hal's sister is a computer science major."

Q4. Establish whether the compound proposition $(p \wedge \neg q) \wedge (\neg p \vee q)$ is a tautology, contradiction, or contingency.