

# Math 2283 - Introduction to Logic

Quiz #9 - 2016.02.05

Name: \_\_\_\_\_

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1. The following is an instance of the Law of Hypothetical Syllogism, what substitution was used to obtain it?

$$[((p \vee \sim q) \rightarrow (q \leftrightarrow r)) \wedge ((q \leftrightarrow r) \rightarrow (r \wedge p))] \rightarrow ((p \vee \sim q) \rightarrow (r \wedge p))$$

2. Construct a truth table for  $[p \rightarrow (q \vee r)] \leftrightarrow [(p \rightarrow q) \vee (p \rightarrow r)]$ .