

INFO I201
Quiz 1
5/9/13

Name:

Let us define a new binary connective denoted $A \oplus B$, as follows:

| A | B | $A \oplus B$ |
|-----|-----|--------------|
| t | t | f |
| t | f | t |
| f | t | t |
| f | f | f |

\oplus is the *exclusive or* connective. Construct the truth table for the formula

$$(P \leftrightarrow Q) \oplus (P \leftrightarrow \neg Q).$$

Is this formula a tautology?