

## HW 1, Intro Advanced Math, turn in on Thursday

Study the handout: Truth Tables, Tautologies, and Logical Equivalences.  
Do this exercise using truth tables, just like in the examples in the handout.

Let  $p, q$  be statements. Which of the following statements are logically equivalent, if any? Which are tautologies, if any?

$$S_1 : p \vee (p \implies q)$$

$$S_2 : p \vee (q \implies p)$$

$$S_3 : p \implies q$$

$$S_4 : (\neg p) \implies (\neg q).$$