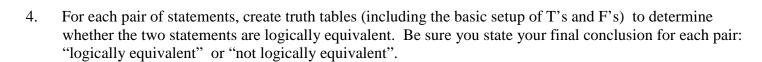
1. Consider the following statements: Suppose s stands for "I will study", t stands for "I will watch TV", and t represents "I will snack".

Use these to rewrite each statement below in symbolic form:

- a) I will not snack, but I will watch TV._____
- b) If I watch TV, then I will snack.
- c) I will not watch TV or I will not study._____
- d) I will neither watch TV, nor study._____
- e) If I watch TV, I will snack and not study._____
- 2. Consider the following statements. Let s represent "There is school today", d represents "It is Saturday", and t represents "I have a test today".

Use these to translate each of the following symbolic forms into statements.

- a) $s \wedge \sim d$
- b) $d \rightarrow \sim s$
- c) $s \rightarrow (\sim d \wedge t)$
- 3. For each of the statements below, write the **negation** of the statement *in English words* in **two** ways:
 - (1) using the "it is not true that" method and then (2) using the **precise quantifier** language studied in class.
 - (a) All professors have graduate degrees.
 - (1)
 - (2)
 - (b) Some students study at least 5 hours the day before an exam.
 - (1)
 - (2)



a)
$$p \vee \sim q$$
 $(\sim p \wedge q)$

b)
$$p \lor (q \land r)$$
 $(p \lor q) \land (p \lor r)$

5. a) Explain the difference between "exclusive or" and "inclusive or".

b) Write out an example where "or" is used in the exclusive sense, and "or" is used in the inclusive sense.