

CISC 301
Homework 2
Due on Thursday, September 22, 2005
No Late Submissions

1. Prove or disprove the following:
 - a. $\{A \rightarrow (B \rightarrow \neg A)\} \models (B \rightarrow \neg A)$
 - b. $\{B \rightarrow A, A \rightarrow \neg C\} \models ((\neg C) \rightarrow B)$
 - c. $\{A \rightarrow C, B \rightarrow C, A \vee B\} \models C$.
 - d. The set of formulae $\{A_1 \vee A_2, \neg A_2 \vee \neg A_3, A_3 \vee A_4, \neg A_4 \vee \neg A_5, \dots\}$ is satisfiable.
2. Let S be a set of formulae and F be a formula such that $S \models F$. Show that $S \cup \{\neg F\}$ is unsatisfiable.