Problem 5. Consider the following argument:
“The government obtains an injunction and the military will be sent into the mills. If the military is not sent into the mills, then the strike is settled. The strike is either settled or looting will begin. Looting does not begin. Therefore, the strike is settled.”
Assuming you agree with the first four premises, must you accept the conclusion? Justify your answer.

Problem 6. Let $P$, $Q$, and $R$ be statements.

i. Give the truth table for $(Q \land R) \rightarrow [P \rightarrow (Q \lor \neg R)]$.

ii. Show that $P \equiv \neg(\neg P)$.

iii. Show that $\neg(P \lor Q) \equiv (\neg P \land \neg Q)$.

iv. Show that $[P \land (Q \lor R)] \equiv [(P \land Q) \lor (P \land R)]$.

Problem 7. Suppose $P$ and $Q$ are statements. In class we saw that $(P \rightarrow Q) \equiv (\neg P \lor Q)$. Use this fact, along with Problem 6 above, to determine a statement that is logically equivalent to $\neg(P \rightarrow Q)$. 