

Exercise Sheet 5
CS 2210 Logic for Computer Scientists (Hitzler)
Solutions due: Tuesday October 7, 2014, 9:30am

Exercise 27 Determine all subformulas of $((B \wedge F) \rightarrow \neg I)$.

Exercise 28 Draw the formulas from Example 2.1.3 and Exercise 27 as trees.

Exercise 29 Do the calculation from Example 2.2.2 for the formula $\neg(I \vee \neg B) \vee \neg F$ from Example 2.1.4 and the values $\mathcal{A}(I) = 1$ and $\mathcal{A}(B) = \mathcal{A}(F) = 0$.

Exercise 30 Make the truth table for the formula from Exercise 29.

Exercise 31 Give a model for $\neg(p \wedge q) \vee \neg r$.

Exercise 32 Show the following.

1. $A \wedge \neg A$ is unsatisfiable.
2. $A \rightarrow \neg A$ is satisfiable.