

CSE 725 - Problem Set 3

Due lecture on June 1st

Problem numbers are from the second edition of Sipser's book. If unsure about which problem to solve, ask. Collaboration is permitted; looking for solutions from external sources (books, the web, material from previous years, etc.) is prohibited.

1. 7.36
2. 7.24
3. * 7.27 (Optional hint: do not follow the hint in the book and show $\neq SAT \leq_P 3COLOR$, where $\neq SAT$ is from problem 2.)
4. Show that $2COLOR \in P$, where

$2COLOR = \{\langle G \rangle : \text{the nodes of } G \text{ can be colored with two colors such that no two nodes joined by an edge have the same color}\}.$

5. * 7.44