

Handout 10: Problem Set 10

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Due by Friday, Jan 10th, 2014, 4pm.

- 1** Write out the proof that it is undecidable if the set generated by a context-free grammar is a regular set.
- 2** Prove an infinite set L contained in $a^n b^n c^n$ is not a cfl.
- 3** Is it decidable if $L(G_1) \cap L(G_2)$ is a recursive set? Explain your answer.
- 4** Give an algorithm for determining if a formula in 2-CNF is satisfiable.
- 5** Is the class of recursive set closed under homomorphism? inverse homomorphism?
- 6** Is the class of recursively enumerable set closed under homomorphism? inverse homomorphism?