

CS 3800, Spring 2016
Homework 8 (50 points)
Assigned: Monday, 28 March 2016
Due: Friday, 1 April 2016

1. [10 pts] Answer each part TRUE or FALSE.
 - (a) $7n \in O(n)$
 - (b) $n^2 \in O(n)$
 - (c) $n^2 \in O(n \lg n)$
 - (d) $n \lg n \in O(n^2)$
 - (e) $3^n \in O(2^n)$
2. [10 pts] Do exercise 7.6 in the textbook.
3. [10 pts] Do exercise 7.8 in the textbook.
4. [10 pts] Show that $\{\langle w_1, w_2 \rangle \mid w_1 \text{ is a substring of } w_2\}$ is in P.
5. [10 pts] Do problem 7.14 in the textbook.