

**Math 311 Fall 2009 Homework 6 due November 3.**

1. Problem 5 on page 96.
2. Problem 6 on page 96.
3. Problem 7 on page 110.
4. Problem 11 on page 111.
5. (a) Show that  $\sigma(n) = n + 1$  if and only if  $n$  is a prime.  
(b) Let  $p$  be a prime. Show that  $\sigma(p!) = (p + 1)\sigma((p - 1)!)$ .