Fall 2015, Math 431: Week 2 Preliminary Problems
Due: Thursday, September 10th, 2015
Elementary Counting Methods

Preliminary problems. The problems below should be completed before class on Thursday.

(P1) Determine how many 5-digit numbers are divisible by three and have middle digit 6.

(P2) Fix positive prime integers $p_1, \ldots, p_k$ and positive integers $a_1, \ldots, a_k$, and let $n = p_1^{a_1} \cdots p_k^{a_k}$. How many positive divisors does n have?