$\begin{array}{c} {\rm Number\ Theory\ II} \\ {\rm Fall\ 2008} \end{array}$

Assignment 4 (cont.)

Exercise 1. Verify that equation (5) of Theorem 3.1 is true when [y] + 2 > [x] (this case is not handled by the proof given in the text).

Exercise 2. Given an integer $k \geq 1$ find an asymptotic formula for

$$\sum_{n \leq x \atop (n,k)=1} \frac{1}{n}$$

with an error term that tends to 0 as $x \to \infty$.