

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

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

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