Lobachevskii Journal of Mathematics 2016 vol.37 N2, pages 128-137

An algorithm for counting smooth integers

Ishmukhametov S., Sharifullina F.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, Pleiades Publishing, Ltd.An integer number n > 0 is called y-smooth for y > 0 if any prime factor p of n satisfies p ≤ y. Let ψ(x, y) be the number of all y-smooth integers less or equal to x. In this paper we elaborate a new algorithm for approximate calculation of ψ(x, y) at large x and relatively small y < log x.

http://dx.doi.org/10.1134/S1995080216020062

Keywords

calculation of smooths, Dickman–de Bruijn function, distribution of smooths, Smooth integers