

Project Euler #193: Squarefree Numbers

A positive integer n is called squarefree, if no square of a prime divides n , thus 1, 2, 3, 5, 6, 7, 10, 11 are squarefree, but not 4, 8, 9, 12.

Similarly, let us define a positive integer n to be k^{th} powerfree if no k^{th} power of a prime divides n . For example, 40 is 4^{th} powerfree, but not 48.

You are given two positive integers, N , and K . Find the number of K^{th} powerfree positive integers $\leq N$

Input Format

The only line of the input contains two integers, N , and K .

Constraints

$$1 \leq N, K \leq 10^{18}$$

Output Format

Print one line containing the number of K^{th} powerfree positive integers $\leq N$

Sample Input 0

10 2

Sample Output 0

7

Explanation 0

We have to find the number of 2^{nd} -powerfree (squarefree) integers ≤ 10 . These integers are 1, 2, 3, 5, 6, 7, 10

Sample Input 1

10 3

Sample Output 1

9

Explanation 1

All positive integers ≤ 10 are 3^{rd} -powerfree, except 8. (Since $8 = 2^3$ is divisible by 2^3)

