A Math Contest P16 - Morbius vs. Suibom

Time limit: 2.0s **Memory limit:** 512M

Let $f(x, y)$ be the lowest common multiple of x and y and $g(x, y)$ be the greatest common divisor of x and y. Determine $\sum_{x=1}^{N} \sum_{y=1}^{N} f(x, y) \times g(x, y)^2$ modulo a prime number, K.

Input Specification

The only line will contain two space-separated integers, N ($1 \leq N \leq 10^{10}$) and K ($2 \leq K \leq 2 \times 10^9$).

Output Specification

Output $\sum_{x=1}^{N} \sum_{y=1}^{N} f(x, y) \times g(x, y)^2$ modulo K.

Sample Input

```
10 131
```

Sample Output

```
64
```