C Cardboard Container

Time limit: 1s



Fidget spinners are *so* 2017; this years' rage are fidget cubes. A fidget cube is a cube with unit side lengths, which you hold in your hand and fidget with. Kids these days, right?

You work in the planning department for a company that creates and ships fidget cubes. Having done some market analysis, you found that your customers want to receive shipments of *exactly* V fidget cubes.

This means you have to design a container that will hold exactly V fidget cubes. Since fidget cubes are very fragile, you cannot have any empty space in your container. If there is empty space, they might move around, bump into each other and get damaged. Because of this, you decide to ship the fidget cubes in a rectangular cardboard box.

The cost of a cardboard box is proportional to its surface area, costing exactly one unit of money per square unit of surface area. Of course you want to spend as little money as possible. Subject to the above constraints, how much money do you have to spend on a box for V fidget cubes?

Input

The input contains a single integer, $1 \leq V \leq 10^6$, the number of fidget cubes for which you need to build a box.

Output

Print the cost of the cheapest rectangular box as specified in the statement.

Sample Input 1	Sample Output 1
1	6

Sample Input 2	Sample Output 2
4	16

Sample Input 3	Sample Output 3
3	14

Sample Input 4	Sample Output 4
5913	2790