An integer N is given, representing the area of some rectangle.

The *area* of a rectangle whose sides are of length A and B is A \* B, and the*perimeter* is 2 \* (A + B).

The goal is to find the minimal perimeter of any rectangle whose area equals N. The sides of this rectangle should be only integers.

For example, given integer N = 30, rectangles of area 30 are:

* (1, 30), with a perimeter of 62,
* (2, 15), with a perimeter of 34,
* (3, 10), with a perimeter of 26,
* (5, 6), with a perimeter of 22.

Write a function:

class Solution { public int solution(int N); }

that, given an integer N, returns the minimal perimeter of any rectangle whose area is exactly equal to N.

For example, given an integer N = 30, the function should return 22, as explained above.

Assume that:

* N is an integer within the range [1..1,000,000,000].

Complexity:

* expected worst-case time complexity is O(sqrt(N));
* expected worst-case space complexity is O(1).