Soldiers in row P81846_en

"How to arrange 10 soldiers in 5 rows of 4 soldiers each?"

Although this problem looks impossible, this is a solution:

Input

Input consists of several cases, each with a natural number n between 2 and 10^8.

Output

For every case, we must arrange n soldiers in rows, as follows: In a circumference, we choose x different points, where x is odd and at least 3. Then, we draw x straight segments between different pairs of those x points. At the end, we can place one soldier on every resulting intersection, those produced at the ends of the segments included.

For every given n, print the minimum x that allows arranging at least n soldiers.

Sample input 1

```
10
11
2
99976869
99976870
99976871
```

Sample output 1

```
5
7
3
14141
14141
14143
```

Problem information

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