CODEFORCES$^\beta$
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PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   ROOM   STANDINGS   CUSTOM INVOCATION

G. Polygons

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given two integers n and k.

You need to construct k regular polygons having same circumcircle, with **distinct** number of sides l between 3 and n.
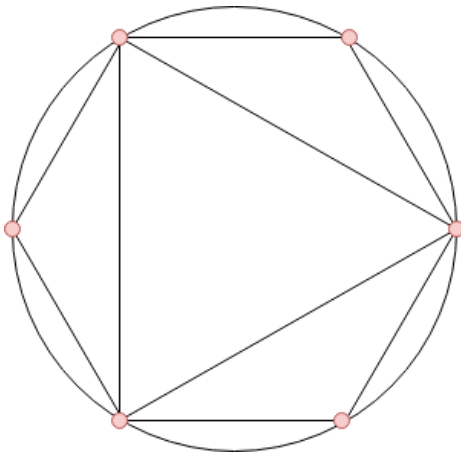

Illustration for the first example.

You can rotate them to minimize the total number of distinct points on the circle. Find the minimum number of such points.

Input

The only line of input contains two integers n and k ($3 \le n \le 10^6$, $1 \le k \le n - 2$), the maximum number of sides of a polygon and the number of polygons to construct, respectively.

Output

Print a single integer — the minimum number of points required for k polygons.

Examples

input	Copy
6 2	

output	Copy
6	

input	Copy
200 50	

output	Copy
708	

Note

In the first example, we have $n = 6$ and $k = 2$. So, we have 4 polygons with number of sides 3, 4, 5 and 6 to choose from and if we choose the triangle and the hexagon, then we can arrange them as shown in the picture in the statement.

Hence, the minimum number of points required on the circle is 6, which is also the minimum overall possible sets.

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest]

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest]

→ Submit?

Language: [GNU G++11 5.1.0 ▼]

Choose file: [选择文件] 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

[Submit]

→ Problem tags

greedy math number theory *2700

No tag edit access

→ Contest materials

- Announcement (en)   ✕

- Tutorial (en)   ✕

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