Problem B. Busy Bee

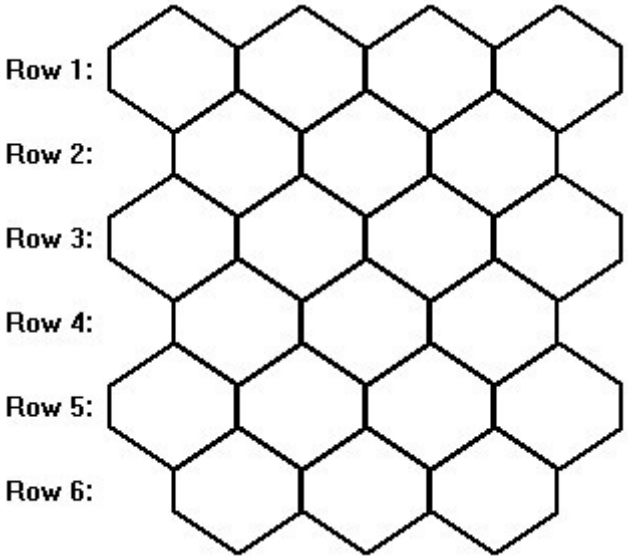
Input file:	`standard input`
Output file:	`standard output`
Time limit:	10 seconds
Memory limit:	128 megabytes

Honeybee hives are usually partitioned into two sections: a brooding chamber and a superstructure, often referred to as a super. The queen bee exclusively lays her eggs within the brooding chamber due to the presence of a queen excluder, which prevents her from accessing the super. Worker bees are responsible for generating honeycomb structures, composed of beeswax hexagonal cells, and storing honey in both chambers.

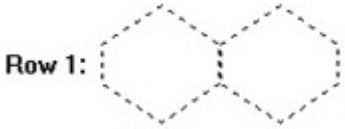
The HaUI ICPC bee, a newly discovered species of honey bee, exhibits an exceptionally unique, albeit inefficient, method for constructing honeycombs. Within each chamber, a solitary worker bee, known as the builder bee, bears the responsibility of crafting the honeycomb that will serve as the storage vessel for the honey generated by all the other bees. This arrangement creates a bottleneck, as the remaining worker bees are unable to initiate honey production in the chamber until at least one hexagonal cell of the honeycomb is completed.

The efficiency of honey production hinges on the proficiency with which the builder bee carries out her task. If she hops between tasks and fails to construct the honeycomb walls optimally, honey production will be adversely affected. The construction of a cell within the honeycomb transpires one wall at a time, under the meticulous care of the builder bee, and a cell is not considered finished until it is fully enclosed, boasting six sides. Each wall requires one hour to be painstakingly assembled, taking into account that certain walls may be shared by two adjacent cells, resulting in the construction of only a single wall.

A honeycomb that is M cells wide by N cells high consists of hexagonal cells as shown below for $M = 4$, $N = 6$ (note that the even rows have $(M - 1)$ cells:



If the builder bee wanted to make the other worker bees wait as long as possible by building the cell walls in an inefficient manner, what would be the maximum time in hours the worker bees would have to wait before they can start depositing honey in the first cell given an MxN honeycomb structure? For example, consider a honeycomb structure where $M = 2$ and $N = 1$:



The dotted lines indicate where cell walls can be built. In this case, the maximum time it would take to make it so that no cell is complete is 10 hours, since there are 10 walls that can be built before any cell is complete. Building the final wall (the dotted line between the cells below), after 11 hours, would complete two cells, at which point the worker bees can fill them with honey.

Input

Input consists of two space separated decimal integers, M ($2 \leq M \leq 1000000$) and N ($1 \leq N \leq 1000000$) which represents the width and height of the honeycomb structure to be built.

Output

Output consists of a single integer value representing the maximum number of hours before the worker bees can begin depositing honey in the first completed cell

Examples

standard input	standard output
2 1	11
3 3	32