

B. Repaintings

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

A chessboard $n \times m$ in size is given. During the zero minute we repaint all the black squares to the 0 color. During the i -th minute we repaint to the i color the **initially black** squares that have exactly four corner-adjacent squares painted $i - 1$ (all such squares are repainted simultaneously). This process continues ad infinitum. You have to figure out how many squares we repainted exactly x times.

The upper left square of the board has to be assumed to be always black. Two squares are called corner-adjacent, if they have exactly one common point.

Input

The first line contains integers n and m ($1 \leq n, m \leq 5000$). The second line contains integer x ($1 \leq x \leq 10^9$).

Output

Print how many squares will be painted exactly x times.

Examples

input
3 3 1
output
4
input
3 3 2
output
1
input
1 1 1
output
1