Problem B
Difference

A *smallest different sequence* (SDS) is a sequence of positive integers created as follows: $A_1 = r \geq 1$. For $n > 1$, $A_n = A_{n-1} + d$, where d is the smallest positive integer not yet appearing as a value in the sequence or as a difference between two values already in the sequence. For example, if $A_1 = 1$, then since 2 is the smallest number not in our sequence so far, $A_2 = A_1 + 2 = 3$. Likewise $A_3 = 7$, since $1, 2$ and 3 are already accounted for, either as values in the sequence, or as a difference between two values. Continuing, we have $1, 2, 3, 4, 6$, and 7 accounted for, leaving 5 as our next smallest difference; thus $A_4 = 12$. The next few values in this SDS are $20, 30, 44, 59, 75, 96, \ldots$ For a positive integer m, you are to determine where in the SDS m first appears, either as a value in the SDS or as a difference between two values in the SDS. In the above SDS, $12, 5, 9$ and 11 first appear in step 4.

Input

Input consists of a single line containing two positive integers A_1 m ($1 \leq r \leq 100, 1 \leq m \leq 200\,000\,000$).

Output

Display the smallest value n such that the sequence $A_1, \ldots, A_n$ either contains m as a value in the sequence or as a difference between two values in the sequence. All answers will be $\leq 10\,000$.

Sample Input 1	Sample Output 1
1 5	4

Sample Input 2	Sample Output 2
1 12	4

Sample Input 3	Sample Output 3
5 1	2