

The people of a certain tribe produce circular ceramic discs with equal diameter by some rare clay. A necklace is formed by connecting one or more discs. The figure below shows a necklace made with 4 discs. Its length is 4 times the diameter of each disc.



The thickness of each disc is fixed. The diameter D and the volume of clay used V has the following relationship:

$$p(x) = \begin{cases} 0.3\sqrt{V - V_0} & \text{if } V > V_0 \\ 0 & \text{if } V \leq V_0 \end{cases}$$

where V_0 is the volume consumed in the baking process, in the same unit of V . When $V \leq V_0$, no ceramic discs can be made. As an example, let $V_{total} = 10$, $V_0 = 1$. If we use it to make 1 disc, $V = V_{total} = 10$, $D = 0.9$. If we divide the clay into 2 parts, the volume of each part $V = V_{total}/2 = 5$, and diameter of each disc formed is $D' = 0.3\sqrt{5 - 1} = 0.6$, thus the length of necklace formed this way is 1.2.

As per the above example, it is obvious that the lengths of necklaces differ as the number of discs made changes. Please write a program that computes the number of discs one should make so that the necklace formed is the longest.

Input

Each line of input contains two numbers, V_{total} ($0 < V_{total} \leq 60000$) and V_0 ($0 < V_0 \leq 600$), as defined above. Input ends with a case where $V_{total} = V_0 = 0$.

Output

Each line of output should give the number of discs one should make so that the necklace formed is the longest. If this number is not unique, or no necklaces can be formed at all, output '0' instead.

Sample Input

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10 1
10 2
0 0
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Sample Output

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5
0
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