

Cut ellipse

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

You are given an ellipse on a 2D plane defined by the standard equation:

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

where a and b are positive real numbers representing the semi-major and semi-minor axes.

You are also given a line in the plane defined by the linear equation:

$$y = kx + c$$

Your task is to compute the area of the larger part when the line divides the ellipse into two regions.

Input

There is only one test case in each test file.

The first line contains two integers a and b ($1 \leq a, b \leq 10^3$), the semi-axes of the ellipse.

The second line contains two integers k and c ($|k|, |c| \leq 10^3$), defining the line $y = kx + c$.

It is guaranteed that the line always intersects the ellipse at two different points.

Output

Output a single floating-point number representing the area of the larger part of the ellipse.

Your answer is considered correct if its absolute or relative error does not exceed 10^{-6} .

Formally, let your answer be a , and the jury's answer be b . Your answer is accepted if and only if $\frac{|a-b|}{\max(1,|b|)} \leq 10^{-6}$.

Example

standard input	standard output
2 3 1 1	12.709803500