Problem D
DVD Player

Time limit: 1 second
Memory limit: 2048 megabytes

Problem Description

Darryl just bought a new television. The television's screen is w centimeters in width and h centimeters in height. We may consider a 2D Cartesian coordinate system on the screen: the bottom-left corner is $(0, 0)$, the top-right corner is (w, h), and the sides of the screen are parallel to the axes.

The television comes with a DVD player. When it is not playing, it displays a circular DVD logo of radius r centimeters that moves on the screen. At the 0^{th} second, the logo is located at (x, y) and moves at a velocity described by the vector (v_x, v_y). When the logo moves at the velocity (v'_x, v'_y) for t seconds, its x-coordinate increases by $t \cdot v'_x$ and its y-coordinate increases by $t \cdot v'_y$.

A special property of the logo is that it *bounces*, that is, its direction of movement changes whenever it touches a side of the screen:

- When it touches a vertical edge of the screen, the sign of the x component of its velocity changes.
- When it touches a horizontal edge of the screen, the sign of the y component of its velocity changes.

The following diagram shows an example of the logo bouncing off the top of the screen.

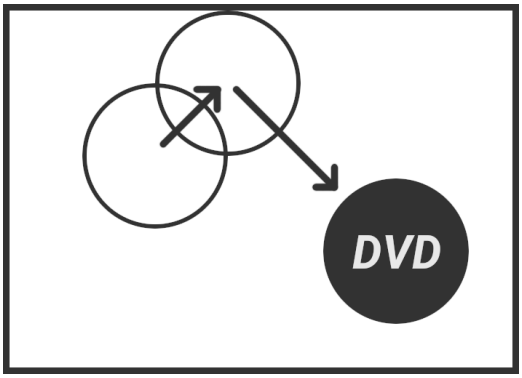

Figure 1: The logo's velocity changes from $(3, 3)$ to $(3, -3)$ after the bounce.

Darryl's dream is to watch the DVD logo touch two sides of the screen at once. Please help him determine the time at which this first happens.

Input Format

The input contains 7 integers w, h, r, x, y, v_x and v_y on a line.

Output Format

If the DVD logo will never touch two sides at once, print `-1`. Otherwise, print a real number denoting the minimum number of seconds that will have elapsed (since the 0^{th} second) when the logo touches two sides. Your answer will be accepted if the absolute or relative error is less than 10^{-6}.

Technical Specification

- $4 \leq w, h \leq 10^9$
- $1 \leq r \leq 10^8$
- $r < x < w - r$
- $r < y < h - r$
- $1 \leq v_x, v_y \leq 10^8$

Sample Input 1

```
7 5 1 2 3 3 3
```

Sample Output 1

```
1.3333333333
```

Sample Input 2

```
8 8 2 3 5 1 1
```

Sample Output 2

```
-1
```