# VPEX P3 - Coding Club

Time limit: 0.5s   **Memory limit:** 64M

At coding club, Darcy is watching the bouncing screensaver meme. The screensaver consists of a rectangular DVD logo of width A and height B bouncing around a rectangular screen of width W and height H at a speed of 1 unit/second. When the logo touches a side of the screen, it bounces off such that the angle of incidence equals the angle of reflection. When the logo reaches a corner, its direction is simply reversed.
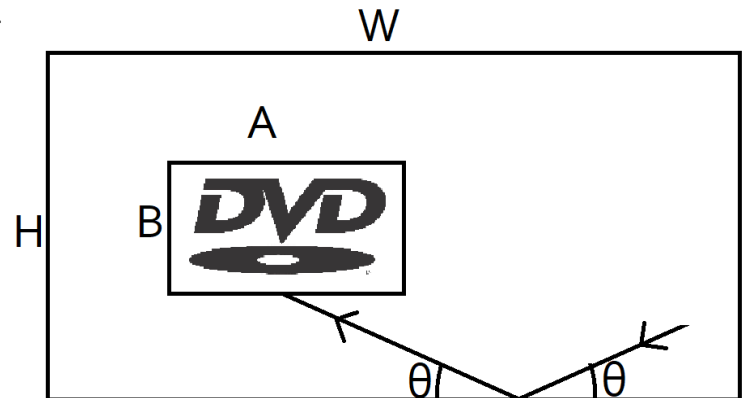
The logo begins at position (x_0, y_0) (measured from the bottom left corner of the screen and logo) and travels in the direction (x, y). After a while, Darcy noticed that the logo returned to its starting position and velocity. What is the minimum time Darcy had to wait?

Input Specification

The first line contains integers W and H, the width and height of the screen.
The second line contains integers A and B, the width and height of the logo.
The third line contains integers x_0 and y_0, representing the starting position of the logo (measured from the bottom left corner of the screen to the bottom left corner of the logo).
The last line contains integers x and y, meaning the logo has the same initial direction as a vector pointing x units right and y units up.

Output Specification

Let T be the minimum amount of seconds after beginning such that the logo is at position (x_0, y_0) travelling in direction (x, y). Print the 6 digits beginning from the first non-zero digit of T.

If this will never happen, print `-1`.

Constraints

$1 \leq A < W \leq 1000$
$1 \leq B < H \leq 1000$
$1 \leq A + x_0 \leq W$
$1 \leq B + y_0 \leq H$
$-10^5 \leq x, y \leq 10^5$
$x \neq 0$ or $y \neq 0$

Subtask 1 [20%]

$1 \leq W, H, x, y \leq 15$

Sample Input

```
11 11
1 1
5 5
1 1
```

Sample Output

```
282842
```

Explanation

$T = 28.2842712$