

## B. Intersection

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

You are given two set of points. The first set is determined by the equation  $A_1x + B_1y + C_1 = 0$ , and the second one is determined by the equation  $A_2x + B_2y + C_2 = 0$ .

Write the program which finds the number of points in the intersection of two given sets.

### Input

The first line of the input contains three integer numbers  $A_1, B_1, C_1$  separated by space. The second line contains three integer numbers  $A_2, B_2, C_2$  separated by space. All the numbers are between -100 and 100, inclusive.

### Output

Print the number of points in the intersection or  $-1$  if there are infinite number of points.

### Examples

<b>input</b>
1 1 0 2 2 0
<b>output</b>
-1

  

<b>input</b>
1 1 0 2 -2 0
<b>output</b>
1