

Problem E. Circle and line

Time limit 1000 ms

Mem limit 131072 kB

There is a circle of radius R with center at (x, y) and the line that is given with the coordinates of its two points. Find the length of the line segment inside the circle.

Input data

One line contains radius of the circle R , the coordinates (x, y) of the circle center and coordinates of two points on the line. All numbers are integers, not greater than 10000 by absolute value.

Output data

Print the length of the line segment inside the circle with 5 digits after the decimal point. If the circle and the line do not intersect, print -1, if touches - print 0.

Sample 1

Input	Output
5 0 0 4 1 4 2	6.00000