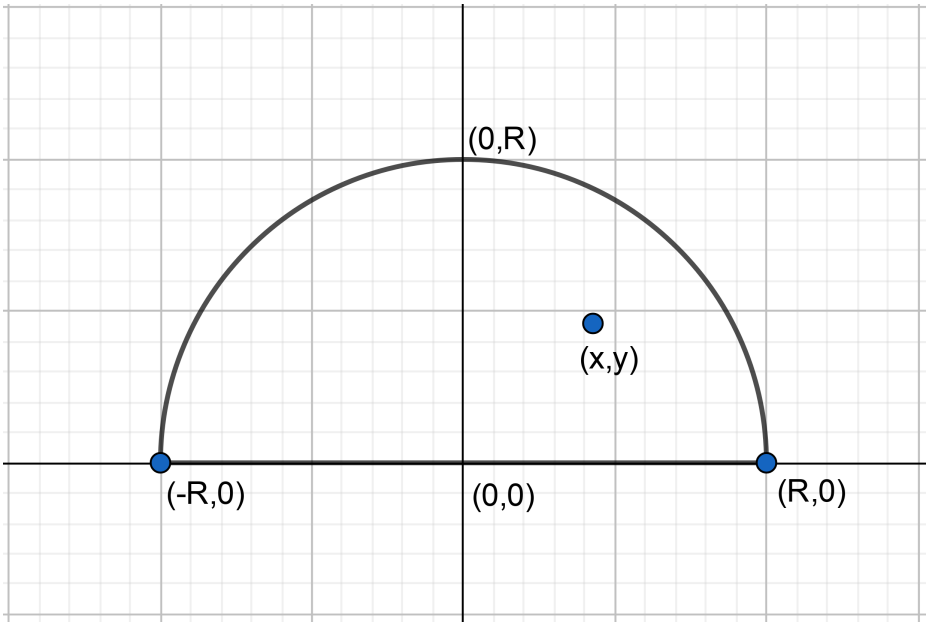
Half Circle

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

Nasa has a field that is enclosed by a semicircle. There is a pole somewhere on the field to which Nasa's very energetic squirrel should be leashed. Nasa wants to know how long he can make the leash so that the squirrel cannot step outside his field.



Input

The only line of input contains three space-separated integers R, x, and y ($1 \leq R \leq 1000$, $-1000 \leq x, y \leq 1000$), representing the radius of the semicircle, and the coordinates of the pole respectively. It is guaranteed that (x, y) lies strictly inside the given semicircle.

Output

Output a single number representing the maximum length of the leash so that the squirrel stays inside the field. The answer will be considered correct if the absolute or relative error is within 10^{-4}.

Examples

standard input	standard output
12 6 6	3.51471862576
12 -11 1	0.95463898281
12 3 6	5.29179606750
12 0 1	1.00000000000
12 -4 11	0.29530008928
12 0 7	5.00000000000