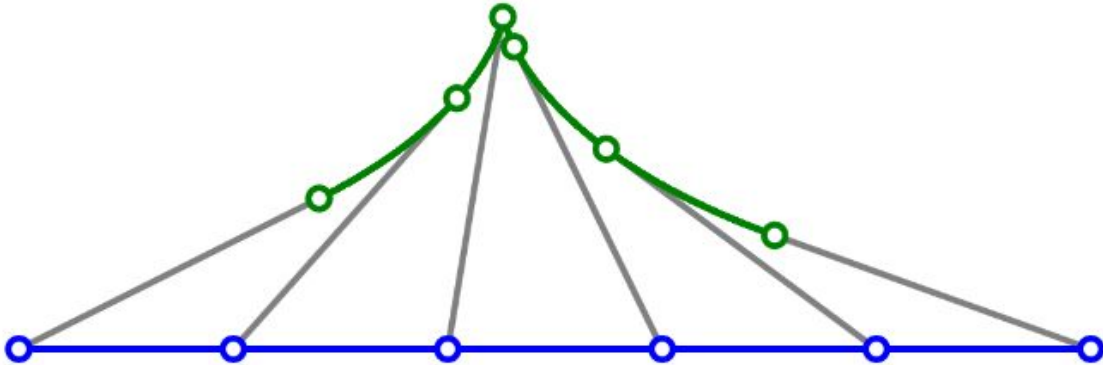


# Moving Points

SEASON 9 – SIXTH ROUND

You have the points  $A(0,0)$  and  $B(x,y)$  in a Cartesian coordinate system. The point A is moving in a straight line to the right for  $d$  units of distance (so at the end it would be at  $(0,d)$ ). The point B is moving in such a way, that the distance between A and B at all times is the constant  $\sqrt{x^2 + y^2}$ . Additionally B is moving such that the distance it travels is minimal.



Your task is to find the coordinates of B at the end of the movement of A for given  $x$ ,  $y$  and  $d$ .

## Input

From the first line of the input file `mp.in` contains the numbers  $x$ ,  $y$  and  $d$ .

## Output

In the output file `mp.out` print the final coordinates of point B. Print the numbers rounded to exactly the 5th digit after the decimal point.

## Constraints

$$-10000 \leq x, y \leq 10000$$

$$0 \leq d \leq 10000$$

$x$ ,  $y$  and  $d$  have exactly 5 digits after the decimal point

**Time limit: 0.2 seconds**

**Memory limit: 256 MB**

# Moving Points



SEASON 9 – SIXTH ROUND

## Example

Input (mp.in)	Output (mp.out)
-0.58979 0.80755 0.42263	-0.37786 0.59934
1.00000 -1.00000 1.00000	1.24399 -1.39301
1.00000 1.00000 3.00000	1.80437 0.75529