

X Gamesmanship

Time limit: 1s

You have been playing video games with your brother the entire day, and he has been beating you mercilessly. However, he has just left to go to the bathroom, so this is your chance! In a show of gamesmanship, you decide to take advantage of your brother's absence. You are currently playing Pong, and the ball (modelled as a point) is positioned in the middle of the board at coordinates $(0, 0)$, moving at an angle of α degrees from the x -axis. The ball will be kicked to the right, towards your paddle.



Picture by mbiebusch via Flickr

Your paddle has x -coordinate 10. You reckon that you need to hit the ball just once in order to score a point: if need be, you will just move your brother's paddle out of the way.

You want to know what the y -coordinate of the ball is once its x -coordinate equals 10, so you can move your paddle up or down accordingly.

Input

- The input consists of a floating number α ($-75 < \alpha < 75$), the angle (in degrees) in which the ball takes off from $(0, 0)$, measured from the positive x -axis in counterclockwise direction.

Output

- Output one floating point number: the y -coordinate of the ball once its x -coordinate equals 10. Your answer should have an absolute or relative error of at most 10^{-6} .

Sample Input 1

45.0

Sample Output 1

10

Sample Input 2

-20.0

Sample Output 2

-3.6397023427

Sample Input 3

3.14159

Sample Output 3

0.5488610435