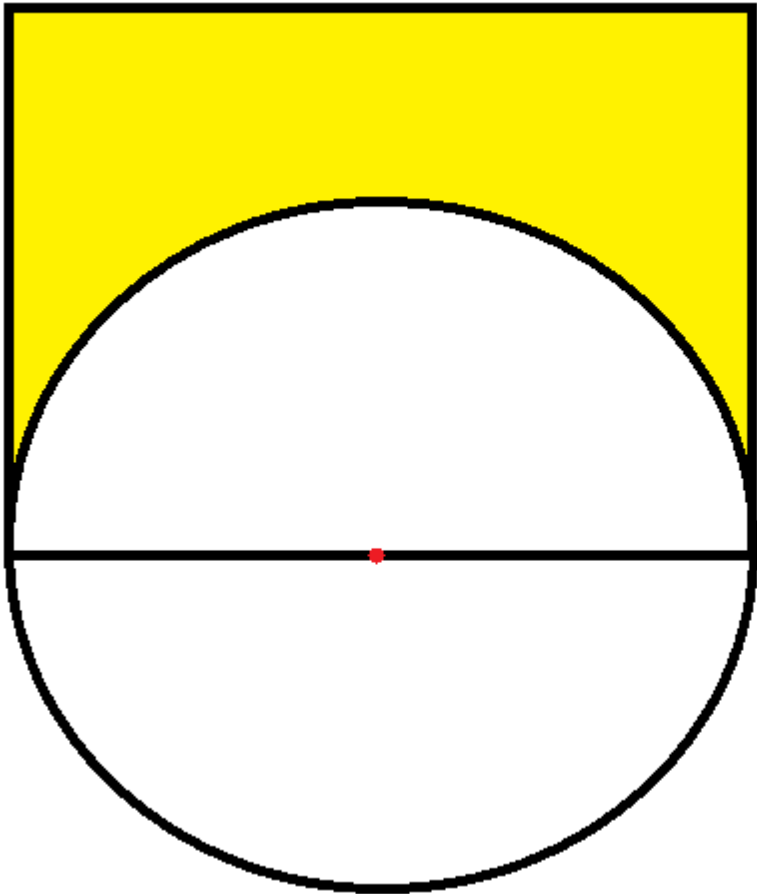PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   STANDINGS   CUSTOM INVOCATION

B. Geometry ? i hate it :(

time limit per test: 1 s.

memory limit per test: 4 MB

input: standard input

output: standard output

After the last contest I wish you studied more and more geometry laws.

A simple problem for you given a square located on the diameter of the cycle as shown in figure and R the radius of the cycle can you find the area of the yellow part ?

Input

The only line of the input contains one number R $\left(1 \leq R \leq 10^9\right)$.

Output

print the area of the yellow part with 4 digits after the decimal point.

Examples

input	Copy
5	

output	Copy
60.7301	

input	Copy
2	

output	Copy
9.7168	

Note

All circles are equal

PI = 3.1415926535