

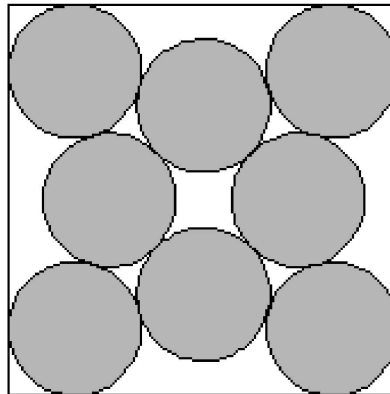
Problem D. Circles Inside a Square

Source file name: circle.c, circle.cpp, circle.java, circle.py

Input: Standard

Output: Standard

You have 8 circles of equal size and you want to pack them inside a square. You want to minimize the size of the square. The following figure illustrates the minimum way of packing 8 circles inside a square:



Given the radius, r , find the area of the minimum square into which 8 circles of that radius can be packed.

Input

There is one input line, it consists of a positive real number (between 0.001 and 1000, inclusive) denoting the radius, r .

Output

Print the area of the minimum square where 8 circles of radius r can be packed. Print 5 digits after the decimal. Your output is considered correct if it is within ± 0.00001 of the judge's output.

Example

Input	Output
0.1	0.34383
0.2	1.37532