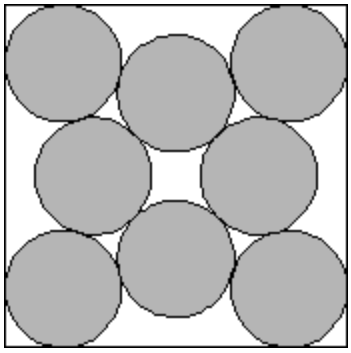
UCF "Practice" Local Contest — Aug 31, 2019

Circles Inside a Square

filename: `circle`
Difficulty Level: `Medium`
Time Limit: `3 seconds`

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:



The Problem:

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

The Input:

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

The 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.

Sample Input	Sample Output
0.1	0.34383
0.2	1.37532