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Hard Homework



Problem Submissions Leaderboard Discussions

Your submission will run against only preliminary test cases. Full test cases will run at the end of the day.

Aaron is struggling with trigonometric functions, so his teacher gave him extra homework. Given an integer, n, he must answer the following question:

What is the maximum value of sin(x) + sin(y) + sin(z), where x, y, and z are positive integers and x + y + z = n?

Help Aaron by finding this maximal value and printing it to a scale of 9 decimal places.

Input Format

A single positive integer denoting n.

Constraints

• $3 \le n \le 3 \times 10^6$

Output Format

Print a single real number rounded to a scale of exactly 9 decimal places (e.g., 0.123456789) denoting the maximum possible value.

Sample Input 0

3

Sample Output 0

2.524412954

Explanation 0

The only possible variant is x = 1, y = 1, and z = 1, which gives us sin(1) + sin(1) + sin(1) = 2.524412954

```
F in

Contest ends in a day

Submissions: 1217

Max Score: 75

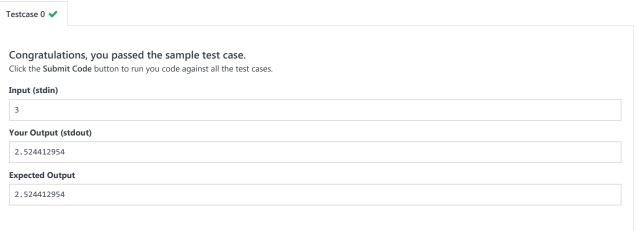
Difficulty: Expert

Rate This Challenge:

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```

```
Current Buffer (saved locally, editable) \ \mathscr{V} \ \mathfrak{O}
                                                                                     C#
   using System;
   using System.Collections.Generic;
3
   using System.IO;
                                                                                                                          4
  ▼ class Solution {
5
        static void Main(String[] args) {
              * Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be
6
   named Solution */
8
             double n = double.Parse(Console.ReadLine());
```

```
9
                 double max = 0;
10
11
                  for (double i = 1; i < n; i++)
12 🔻
13
                      for (double j = 1; j < n; j++)
14 ▼
15
                          double resto = n - i - j;
16
                          double suma = Math.Sin(i) + Math.Sin(j) + Math.Sin(resto);
17
18
19
                          max = Math.Max(max, suma);
20
21
                 }
22
23
24
                 Console.WriteLine(max.ToString("0.000000000"));
25
26
27
                                                                                                          Line: 24 Col: 60
                      Test against custom input
1 Upload Code as File
                                                                                                Run Code
                                                                                                            Submit Code
```



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