

Problem E: Elegant Exterior

Time limit: 1 second

Eric recently returned from his studies to his home village. Always admiring the traditional “Fachwerkhaus” style of building, he plans to build his own house in this way. He already determined that the wood construction in the front of the house should resemble the famous “Haus vom Nikolaus”. That is, the wood forms a rectangle with diagonals included, on top of which a triangle constitutes the roof.

Eric only has wood for a construction of total length n . He wants to choose the height h and width w of the rectangle such that the area of the house front is as large as possible. To ease his calculations he determines that the triangle should have the same height h as the rectangle below it. Note that the base of the triangle and the top line of the rectangle coincide, so a single strip of wood is used for this part.

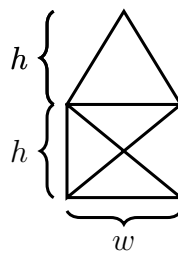


Figure E.1: The house front with maximal area for Sample Input 2.

Input

The input consists of:

- One integer n ($1 \leq n \leq 1000$), the total length of the wood Eric may use.

Output

Print the maximum area of the front of Eric’s house with total wood length of at most n . Your answer should have an absolute or relative error of at most 10^{-6} .

Sample Input 1	Sample Output 1
1	0.0185303139
Sample Input 2	Sample Output 2
7	0.9079853822

This page is intentionally left (almost) blank.