E. Probabilistic Triangle

Score: 1

CPU: 1s
Memory: 1024MB

Mofizz had a triangle **ABC**. One day his friend Xorina came to visit him and while Mofizz was preparing tea for her, she stole the triangle and did the following things with it:

- Picked a random point laying inside the triangle. The chosen point need not be a lattice point and every point had equal probability to get chosen. Let's call this point **P**.
- Then she picked up the vertex which was opposite to the side **BC** and dragged that vertex over the point **P**. Thus the triangle changed from **ABC** to **PBC**.

Coming back, Mofizz discovered that the triangle is gone and Xorina refused to return the triangle back or to let him see the triangle. Now Mofizz is sad about it and he wants to find out the expected area of the triangle. Can you help him to find it out?

Input

The first line of the input contains an integer **T**, denoting the number of test cases. Then **T** lines follow. Each line contains three integers, denoting the length of the sides **AB**, **BC** and **CA** respectively.

Output

For each test case output a line containing a single real number rounded to **six** decimal places denoting the expected area of the triangle **PBC**.

Constraints

$1 \leq T \leq 100$

$1 \leq AB \leq BC \leq CA \leq 1000$

$CA \leq AB + BC$

Sample

Input	Output
1 1 2 3	0.000000