Home

👍好评 **[+16]**

ICPC亚洲区域赛银川赛站网络预选赛

B. Otaku Happy Water

| **Time Limit: 1 s** | **Memory Limit: 32 MB** |

📊统计 (/contest/1/problem/2/statistics)

📖描述   ⬆ 提交   返回比赛 (/contest/1)

Description

Debu is a big cola drinker, but he can't help it.

In order to drink less cola, he designed the following device:

A tank that is nearly infinite in length and height, with an infinite amount of cola at the bottom.
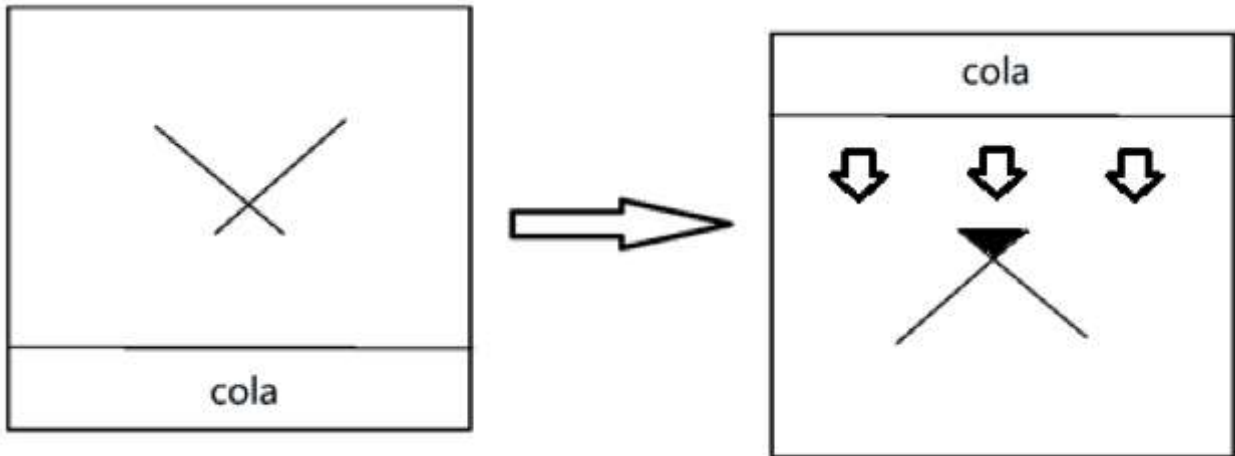
In the middle of the tank there are two planks, The planks are positioned infinitely far from the edge of the tank and the distance between planks and cola is infinite，two planks may intersect,

Debu will turn the tank upside down at noon (completed in a moment), and the cola will fall down vertically.and speed of the cola is quickly，cola reach the bottom int a moment，so some

cola may be retained by the planks(because two planks may intersect), and Debu will drink the cola retained by the planks

At night Debu will repeat the process and enjoy the cola again.

Now let's calculate how many volumes of cola Debu can drink in a day.(The width of planks and tank is 1)

Input

The first line is an integer T,represents the number of test case(1<=T<=1e5).

Each test case has 8 integers: x1, y1, x2, y2, x3, y3, x4, y4.

(x1, y1), (x2, y2) are the endpoints of one baffle, and (x3, y3), (x4, y4) are the endpoints of the

other baffle，each integer doesn't exceeding 10,000.

Output

For each test case output a single line containing a real number with precision up to two decimal places - the volumes of cola.

Examples

input :

```
1
1 1 2 2 1 1 0 2
```

output :

```
1.00
```