

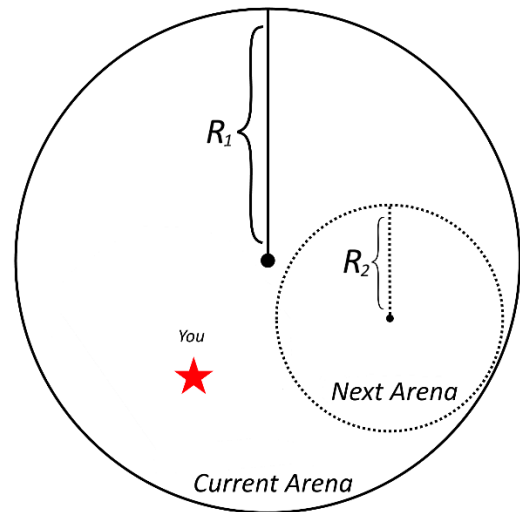
Arena Survival (prob1)

The Problem

You are playing a very popular video game where you are placed in a circular arena with many other competitors. The goal is to be the last one standing while the arena slowly shrinks in size, bringing combatants closer together over time. You've noticed that the way the arena shrinks follows a very simple pattern. Every 5 minutes, the current circular arena shrinks to a smaller circle that is completely contained within the current arena. You figured out the current arena's radius R_1 and the next arena's radius R_2 .

Unfortunately, you don't know where the next circle is going to be until the current arena starts shrinking. You do know that it has a uniformly distributed probability of being any spot that would result in the next arena being fully contained in the current arena.

Afraid that your current spot is not likely to be in the next circle, you have decided to write a program that will take your current position and return the probability that you will be contained in the next circle.



The Input

The first line will contain an integer T for the number of test cases.

The following T lines will contain 4 real numbers R_1 , R_2 , X , and Y ($1 \leq R_2 \leq R_1 \leq 1000$ and $-1000 \leq X, Y \leq 1000$) representing the radius of the current arena, the radius of the next arena, and the position you are currently in, respectively. Your position is guaranteed to be contained within the current arena which is centered around the point $(0,0)$. The border of a circle is considered contained within that circle.

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The Output

For each input case, output a single decimal number representing the probability that you will be contained in the next arena rounded to 2 decimal places.

Sample Input

```
3
2 1 0 0
5 2 1 1
5.3 1.4 1.55 3.1
```

Sample Output

```
1.00
0.41
0.08
```