10969 Sweet Dream

Are you ready to have a sweet dream? OK! Close your eyes (Hey! Do NOT! I was kidding! How can you read the problem statement with your eyes closed? Umm! Let me think . . . Yes! There is a good solution to this problem. Simply, hand this paper to your teammate and let him read it aloud for you)!

. . . You are standing in the middle of a room and you have a handful of discs of different sizes. They are heavy. You somehow feel uncomfortable. Calm down and don't worry! I am going to help you feel comfortable again. Simply choose one of the discs in your hand randomly and drop it on the floor. Yes! You feel a little more comfortable. Choose and drop another! Then another one! . . . And continue this process until your hands are empty. Now, you are as light as a feather and you are ready to fly away . . .

But don't be so quick! Before flying away, you should solve a problem. Open your eyes and take a look at the floor. You see the discs youve just dropped (To the teammate reading this problem aloud: Show the contents of figure 1 to your teammate who is going to open his eyes now).

You can see that some discs are partially (or totally) covered by other discs. Your job is to compute the total perimeter of parts of the discs that you can see from the above.

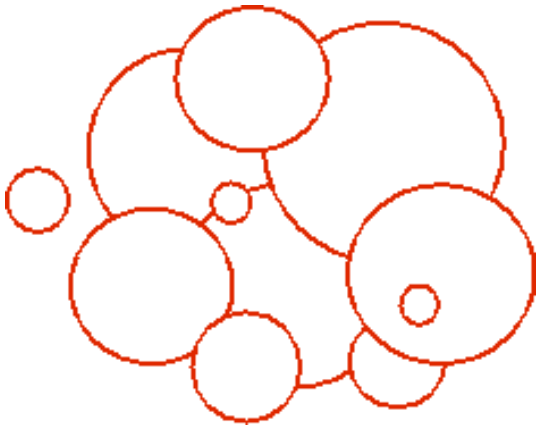Umm! I think you feel a little bit uncomfortable again. Am I right?

Figure 1. A Room containing a Rotating Door

Input

The first line of input contains a single integer $T \leq 100$ which is the number of test cases. Each test case starts with a single integer $N \leq 100$, the number of discs originally in your hand followed by N lines, the kth of which containing three floating-point numbers which are $r_k \leq 100,000$, radius of the kth disc and $-100,000 \leq x_k, y_k \leq 100,000$ the coordinates of the point on the floor on which the disc has fallen. Two floating-point numbers are assumed to be equal if their absolute difference is less than 10^{-10}

Output

Output for each test case consists of a line containing a floating-point number which is the total perimeter of part of discs that can be seen from above rounded to 3 decimal digits after the fraction point. The number should have exactly 3 digits after the fraction point.

Sample Input

```
3
1
10 0 0
2
5 0 0
10 0 0
2
```

```
1 0 0
1 1 0
```

Sample Output

```
62.832
62.832
10.472
```