

# CIRU2

You are given N **different** circles , while some region may be covered more than once.

If one region is covered by K times, then it was called a "K- Region".

So, you are expected to output the area of all the regions! (K from 1 to N)

## Input

The first line is one integer n indicates the number of the circles. ( $1 \leq n \leq 1000$ )

Then follows n lines every line has three integers

$X_i Y_i R_i$

indicates the coordinate of the center of the circle, and the radius. ( $|X_i|, |Y_i| \leq 1000, 0 < R_i \leq 1000$ )

## Output

Output N lines, the i-th line output

[i] = area\_of\_i\_region

here the area must round to 3 digits after decimal point.

## Example

**Input:**

```
3
0 0 1
1 0 1
1 1 1
```

**Output:**

```
[1] = 4.699
[2] = 1.699
[3] = 0.443
```