From the figure on the right, it is clear that C1, C2 and C3 circles are touching each other.
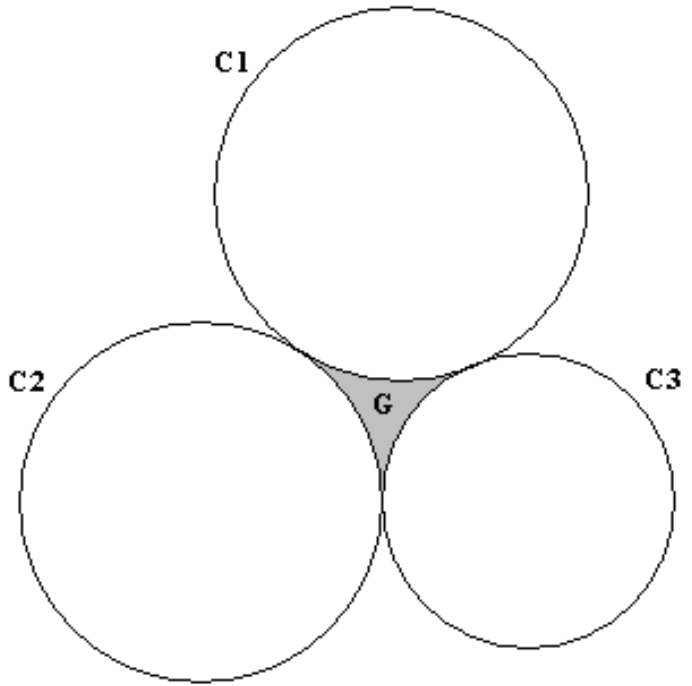
Consider,
C1 circle have $R1$ radius.
C2 circle have $R2$ radius.
C3 circle have $R3$ radius.
Write a program that will calculate the area of shaded region G

## Input

The first line will contain an integer $k$ ($1 \leq k \leq 1000$) which is the number of cases to solve. Each of the following $k$ Lines will contain three floating point number $R1$ ($1 \leq R1 \leq 1000$), $R2$ ($1 \leq R2 \leq 1000$) and $R3$ ($1 \leq R3 \leq 1000$).

## Output

For each line of input, generate one line of output containing the area of G rounded to six decimal digits after the decimal point. Floating-point errors will be ignored by special judge program.

## Sample Input

```
2
5.70 1.00 7.89
478.61 759.84 28.36
```

## Sample Output

```
1.2243
2361.0058
```