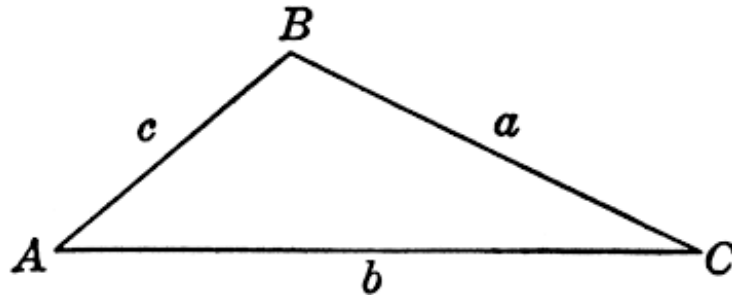


Geometric triangular



Enter the three edges of the triangular that named a and b and c. Calculate the *perimeter* and *area* of the triangular.

Input

The first line of the input consist of a single integer number t which determines the number of tests.

In each of next t lines will contain three edges a and b and c that separated by a space.

Constraints

- $0 < t \leq 1\,000$

Output

For each test case print out *perimeter* and *area* that separated by a space. Separate your answers with a new line character.

Example

Input:

```
7
0 5 -2
2 3 4
9 1 10
3 6 5
-9 2 4
8 4 1
15 27 20
```

Output:

```
the length of triangular's edge must be greater than 0
9 2.905
three numbers a and b and c cannot make a triangular
14 7.483
the length of triangular's edge must be greater than 0
three numbers a and b and c cannot make a triangular
62 147.729
```