

Triangle Pendant

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

Given a point D at height zero and a triangle $\triangle ABC$ with uniform mass, we use three ropes with length x , y , and z to connect AD , BD , and CD respectively. The mass of the ropes can be ignored. Let the triangle fall naturally and stabilize at the lowest position of the center of gravity. Find the final heights of points A , B , and C .

Input

There are multiple test cases. The first line of the input contains an integer T (about 10^4) indicating the number of test cases. For each test case:

The first and only line contains six integers x , y , z , a , b and c ($1 \leq x, y, z, a, b, c \leq 1000$, $a + b > c$, $a + c > b$, $b + c > a$) indicating the length of three ropes and the length of BC , AC and AB .

You can assume that the solution always exists.

Output

For each test case output one line containing threes real numbers indicating the height of points A , B and C .

Your answer will be considered correct if and only if the absolute or relative error does not exceed 10^{-4} .

Example

| standard input | | |
|--------------------|--------------------|--------------------|
| 2 | | |
| 1 | 1 | 1 1 1 1 |
| 2 | 3 | 3 1 1 1 |
| standard output | | |
| -0.816496580927726 | -0.816496580927726 | -0.816496580927726 |
| -2.000000000000000 | -2.866025403784439 | -2.866025403784439 |