#include <iostream>

#include <cmath>

using namespace std;

int main()

{

int t(0);

cin >> t;

while (t!=0)

{

if (t==1)

{

float x1(0), y1(0), x2(0), y2(0);

cin >> x1 >> y1 >> x2 >> y2;

cout << sqrt(pow(abs(x2-x1),2)+ pow(abs(y2 - y1), 2));

}

if (t==2)

{

float A(0),B(0),C(0);

cin >> A >> B >> C;

cout << abs(C-A) << " " << abs(C-B) << " " << abs(C-A)+abs(C-B);

}

if (t==3)

{

float A(0),B(0),C(0);

cin >> A >> B >> C;

cout << abs(C-A)\*abs(C-B);

}

if (t==4)

{

float x1(0), y1(0), x2(0), y2(0);

cin >> x1 >> y1 >> x2 >> y2;

cout << 2\*(abs(x2-x1)+abs(y2-y1)) << " " << abs(x2-x1)\*abs(y2-y1);

}

if (t==5)

{

float x1(0), y1(0), x2(0), y2(0), x3(0), y3(0);

cin >> x1 >> y1 >> x2 >> y2 >> x3 >> y3;

float a=sqrt(pow(abs(x2-x1),2)+ pow(abs(y2 - y1), 2));

float b=sqrt(pow(abs(x3-x2),2)+ pow(abs(y3 - y2), 2));

float c=sqrt(pow(abs(x1-x3),2)+ pow(abs(y1 - y3), 2));

float P=a+b+c;

float p=P/2;

float s=sqrt(p\*(p-a)\*(p-b)\*(p-c));

cout << P << " " << s;

}

cin >> t;

}

}