# Problem 1. Resurrection

You ever heard of Phoenixes? Magical Fire Birds that are practically immortal – they reincarnate from an egg when they die. Naturally, it takes time for them to reincarnate. You will play the role of a scientist who calculates the time to reincarnate for each phoenix, based on its body parameters.

You will receive N, an integer – the amount of phoenixes.   
For each phoenix, you will receive 3 input lines:

* On the first input line you will receive an integer – the total length of the body of the phoenix.
* On the second input line you will receive a floating-point number – the total width of the body of the phoenix.
* On the third input line you will receive an integer – the length of 1 wing of the phoenix.

For each phoenix, you must print the years it will take for it to reincarnate, which is calculated by the following formula:

The totalLength powered by 2, multiplied by the sum of the totalWidth and the totalWingLength (2 \* wingLength).

totalYears = {totalLength} ^ 2 \* ({totalWidth} + 2 \* {wingLength})

### **Input**

* On the first input line you will receive N, an integer – the amount of phoenixes.
* On the next N \* 3 input lines you will be receiving data for each phoenix.

### **Output**

* As output, you must print the total years needed for reincarnation for each phoenix.
* Print each phoenix’s years when you’ve calculated them.
* Print each phoenix’s years on a new line.

### **Constrains**

* The amount of phoenixes will be an integer in range [0, 1000].
* The total length of the body of the phoenix will be an integer in range [-231, 231].
* The total width of the body of the phoenix will be a floating-point number in range [-231, 231].
* The total width of the body of the phoenix will have up to 20 digits after the decimal point.
* The total length of the wing of the phoenix will be an integer in range [-231, 231 – 1].
* The total years is a product of integers and floating-point numbers, thus it is a floating-point number.
* The total years should have the same accuracy as the total width.
* Allowed working time / memory: 100ms / 16MB.

### **Examples**

|  |  |  |
| --- | --- | --- |
| Input | Output | Comments |
| 2  100  50  30  150  25  10 | 1100000  1012500 | 2 phoenixes:  P1:  Body length: 100  Body width: 50  Length of 1 wing: 30  Total years: 100 ^ 2 \* (50 + 2 \* 30) = 1100000  P2:  Body length: 150  Body width: 25  Length of 1 wing: 10  Total years: 150 ^ 2 \* (25 + 2 \* 10) = 1012500 |
| 2  100  50.243  31  154  23.132  11 | 1122430.000  1070350.512 | 2 phoenixes:  P1:  Body length: 100  Body width: 50.243  Length of 1 wing: 31  Total years: 100 ^ 2 \* (50.243 + 2 \* 31) = 1122430.000  P2:  Body length: 154  Body width: 23.132  Length of 1 wing: 11  Total years: 154 ^ 2 \* (23.132 + 2 \* 11) = 1070350.512 |