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).

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.

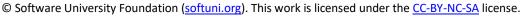
Constrains

- 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 $[-2^{31}, 2^{31} 1]$.
- 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	1100000 1012500	<pre>2 phoenixes: P1: Body length: 100 Body width: 50 Length of 1 wing: 30 Total years: 100 ^ 2 * (50 + 2 * 30) = 1100000</pre>





















		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	1122430.000 1070350.512	<pre>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</pre>















