# 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 |

## Министерство на образованието и науката (МОН)

* Настоящият курс (презентации, примери, задачи, упражнения и др.) е разработен за нуждите на Национална програма "**Обучение за ИТ кариера**" на МОН за подготовка по професия "Приложен програмист".



* Курсът е базиран на учебно съдържание и методика, предоставени от **фондация "Софтуерен университет"** и се разпространява под **свободен** **лиценз CC-BY-NC-SA** (Creative Commons Attribution-Non-Commercial-Share-Alike 4.0 International).

