Challenge 3 - The Gambler's Club - Monkey Island 2

Guybrush Threepwood has found an illegal gambling wheel in an alley.

Guybrush is not able to win, but there's a guy in his fancy green pants who wins every time he plays. But there's something suspicious about him. Every time he wins, he goes away and comes back a few minutes later.

You decide to follow him and watch him receive the next winning number from a man behind a door. You just have to give him the right password in order to receive the number. Later you will learn that you have discovered **"The Gambler's Club"**.

You decide to help Guybrush, so you knock on the door and try to obtain the next winning number.

Since you are the new guy in town, the man behind the door doesn't trust you very much, so he decides to change the password algorithm he's been using to give you the next winning number for the wheel.

The new algorithm gets two natural numbers *x*, *y* and returns a float rounded up to two decimals.

In order for you to practice and discover what the algorithm does, the man behind the door gives you access to:

http://gamblers.contest.tuenti.net

where you can ask him as many times as you want and he will give you the correct answer, but **here**, he will only accept **x, y <= 30**.

You need to solve the algorithm, so that when faced with the final test (he can provide inputs > 30), you tell him the correct solution or he won't give you the next winning number for the wheel!

Input

The first line is **N**, **N** cases will follow.

For each case, in a single line, whitespace-separated, **X** and **Y**, the inputs of the problem (X,Y < 1337)

Output

N lines with the solution (apply the *Gambler's Club* algorithm to the input).

Sample input

```
5
25 25
12 8
1 19
123 37
0 5
```

Sample output

```
35.36
14.42
19.03
128.44
5
```

Submit & test your code

To test and submit code we provide a set of tools to help you. Download contest tools if you haven't already done that. You will then be able to test your solution to this challenge with the challenge tokens.

```
Challenge tokens: CHALLENGE_3, CHALLENGE_SUBMIT_3
```

To test your program

```
./test_challenge CHALLENGE_3 path/program
```

A nice output will tell you if your program got the right solution or not. You can try as many times as you need.

To test your program against the input provided in the submit phase

```
./test_challenge CHALLENGE_SUBMIT_3 path/program
```

During the submit phase, in some problems, we might give your program harder inputs. As with the test token, a nice output will tell you if your program got the right solu-

tion or not. You can try as many times as you need.

In the actual contest you first need to solve the test phase before submitting the code, you must provide the source code used to solve the challenge and you can only submit once (once your solution is submitted you won't be able to amend it to fix issues or make it faster).

If you have any doubts, please check the info section.