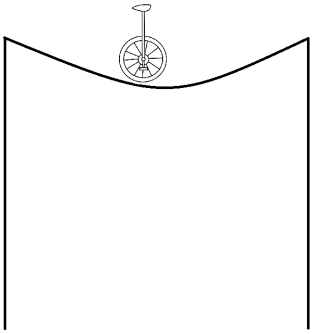
Problem C: Tightrope



You are a tightrope cyclist! To astonish the crowds, you demonstrate your superior balance by riding a unicycle across a tightrope, suspended between two tall pillars.

At least, that's what you dream. In reality, you fall off a lot, because doing this is pretty hard.

The tightrope's difficulty is defined by a positive, linear, and non-decreasing risk function $R(x)$ on $[0, 1]$. For a journey along the tightrope beginning at 0, we say that the probability that you fall off the wire between two points A and B, where $A < B$, is given by the area bounded: above by $R(x)$, below by the x-axis, on the left by $x = A$, and on the right by $x = B$. In other words:

$$\int_A^B R(x)dx$$

Your goal is to travel from $x = 0$ to $x = 1$ on this tightrope. If you ever fall off the tightrope, you must start at the beginning (at $x = 0$) again. What is the expected amount of tightrope that you will travel across to accomplish your journey?

Input Specification:

The input begins with an integer $T < 100$, the number of testcases. Each testcase is on its own line, consisting of two values b and m, which are the intercept and slope respectively of the risk function $R(x) = mx + b$. These values are given to two decimal places. Neither b nor m will exceed 1.0. You will always have at least a 10% chance of successfully crossing the tightrope in a single attempt.

Output Specification:

Output the expected length of travel , rounded to one decimal place.

Sample Input:

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1
0.50 0.00
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Sample Output:

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1.5
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