

Progression

There are two very famous progressions, arithmetic progressions and geometric progressions. These progressions are a set of numbers that have a steady increase along the progression. Arithmetic progressions have a constant difference between all the numbers. Eg: 3, 5, 7, 9, 11, 13 is an arithmetic progression with difference 2. Geometric progressions have in common ratio. Eg: 2, 6, 18, 54 is a geometric progression with a ratio of 3. Given 3 numbers your task is to find the fourth number of the progression, which can be either geometric or arithmetic.

Input

The first line will have a number 't' ($1 \leq t \leq 100$) the number of test cases, below are t lines each with three integers 'a', 'b', 'c' ($-10000 \leq a, b, c \leq 10000$, $a \neq b$, $b \neq c$) that are part of the progression of each case.

Output

Print a number 'd' for each test case that is the number following the progression, it is guaranteed that the output will be an integer.

Example

Input:

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3
2 4 6
-6 4 14
-4 4 -4
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Output:

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8
24
4
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