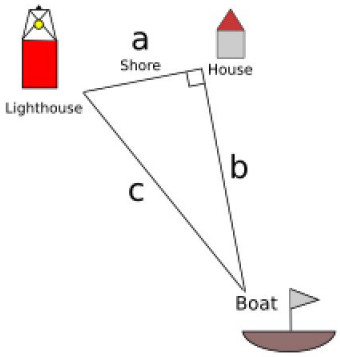
Distance to Shore
Input File: distance.txt

In *Distance to Shore*, you are in a boat a certain distance from shore. On the shore there is a house, and a little farther to the left is a lighthouse. The boat, the house, and the lighthouse form a right triangle. The following diagram illustrates the positions of the boat, the shore, and the lighthouse. You know the distances between two of the different objects, and must find the third using the Pythagorean Theorem.



Input:

The first line contains an integer N. The following N lines will contain two numbers, with an a, b, or c preceding each number. The letters represent one of the sides that is shown above - c is a hypotenuse, and a and b are legs. You can assume that c will be greater than a and b.

Output:

You will need to output the length of the side that is not given using the Pythagorean Theorem. Round the answer **down** to the nearest integer.

Example Input:

```
2
A 15.2 C 18.3
B 5 A 12
```

Example Output:

```
10
13
```