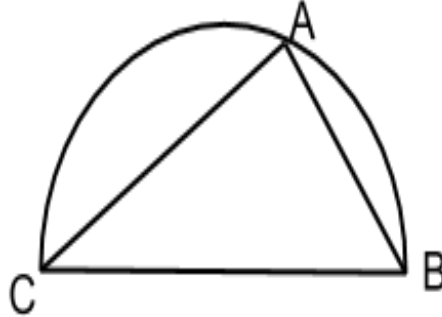


# THE MAX LINES

In this problem you will be given a half-circle. The half-circle's radius is  $r$ . You can take any point  $A$  on the half-circle and draw 2 lines from the point to the two sides of the diameter ( $AB$  and  $AC$ ). Let the sum of square of one line's length and the other line's length is  $s$



Like in the figure  $s = AB^2 + AC$ . And  $BC = 2r$ .

Now given  $r$  you have to find the maximum value of  $s$ . That is you have to find point  $A$  such that  $AB^2 + AC$  is maximum.

## Input

First line of the test case will be the number of test case  $T$  ( $1 \leq T \leq 1000$ ). Then  $T$  lines follows. On each line you will find a integer number  $r$  ( $1 \leq r \leq 1000000$ ); each representing the radius of the half-circle.

## Output

For each input line, print a line containing "Case  $I$ : ", where  $I$  is the test case number and the maximum value of  $s$ . Print 2 digit after decimal (Errors should be less than .01).

## Example

### Sample Input:

```
1
1
```

### Sample Output:

```
Case 1: 4.25
```