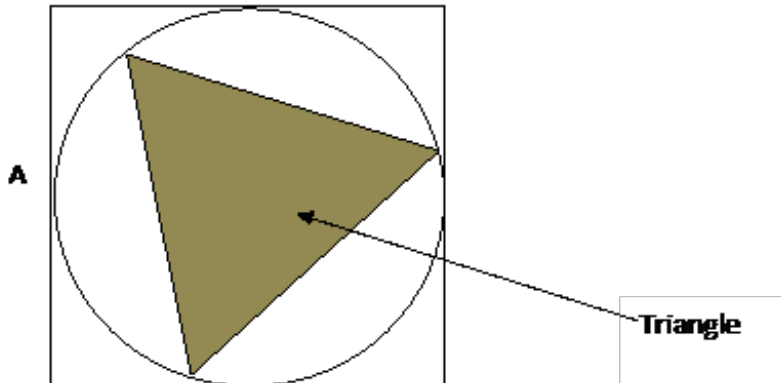# Triangle Under a Circle

Look at the picture there have a Square Length is A and under the square there have a circle. Under the Circle there have a equilateral triangle.

Now given the length of Square and your task is find the Area of Triangle.

Input:

The first line of the input contains an integer T (T≤100000) denoting the number of test cases.

For each test case there given the length square A, 0≤A≤10^7

Output:

For each case, print the case number and the Area of triangle with two decimal points.

Sample:

Input	Output
4 1 2 3 4	Case 1: 0.32 Case 2: 1.30 Case 3: 2.92 Case 4: 5.20

Hints: Consider π as acos (-1.0).