# Coding Arena





## Problem : Cliff and Radar

Two cliffs of lengths X and Y join at one end and enclose a body of water. The angle between the cliffs, phi, is known. A radar is installed at the point where the cliffs are joined. It has a range of m where m < X and m < Y. Calculate the area of the water enclosed between the cliffs which cannot be scanned by the radar and the distance between the end points of two cliffs.

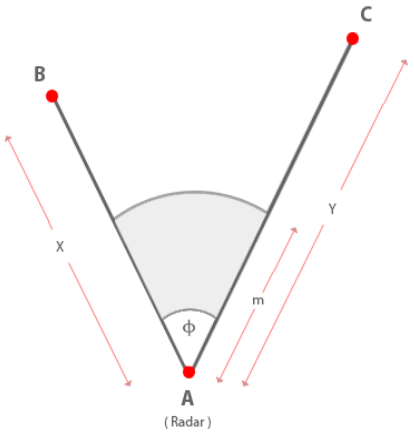


**Fig:Cliff and Radar**

**Input Format:**

First line contains length of cliff AB, denoted by X in meters
Second line contains length of cliff AC, denoted by Y in meters
Third line contains range of radar, denoted by m in meters
Fourth line contains angle BAC in degrees, denoted by Φ (phi)

**Output Format:**

On first line, print the area enclosed between the cliffs that cannot be scanned by the radar in square meters
On second line, print the distance between end points of two cliffs in meters

**Constraints:**

**X > 0**

**Y > 0**

**0 < m < X and 0 < m < Y**

**Φ (phi) > 0**

**Calculations should be done upto 11-digit precision, but output values should be printed upto 5 decimal places**

**Sample Input and Output**

| SNo. | Input | Output |
|---|---|---|
| 1 | 5000<br>8000<br>3000<br>45 | 10607843.88851<br>5694.86238 |
| 2 | 500<br>400<br>50 | 85293.54344<br>458.25757 |

| | | |
|---|---|---|
| | 60 | |
| 3 | 1000<br>1000<br>500<br>60 | 302113.00799<br>1000.00000 |

***Note***:

*Please do not use package and namespace in your code. For object oriented languages your code should be written in one class.*

***Note***:

*Participants submitting solutions in C language should not use functions from <conio.h> / <process.h> as these files do not exist in gcc*

***Note***:

*For C and C++, return type of main() function should be int.*



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**Submit Answer**

I , **YASHWANTH BUDANKAYALA** confirm that the answer submitted is my own.

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