

Coding Arena

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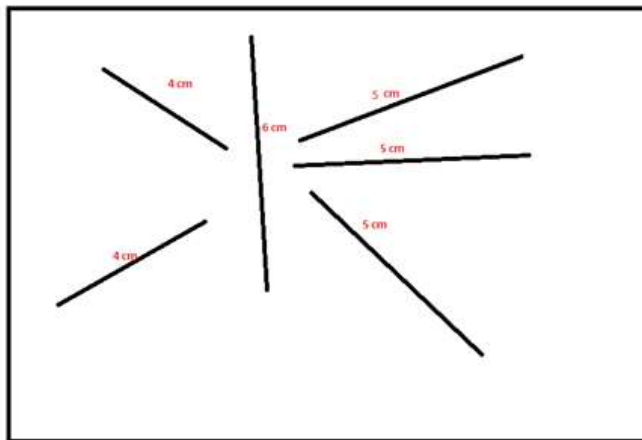
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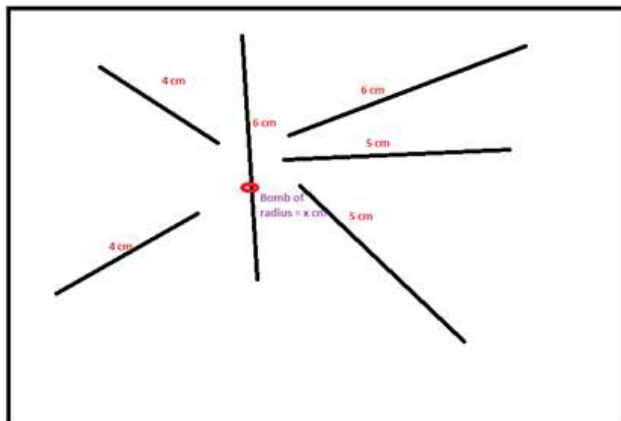
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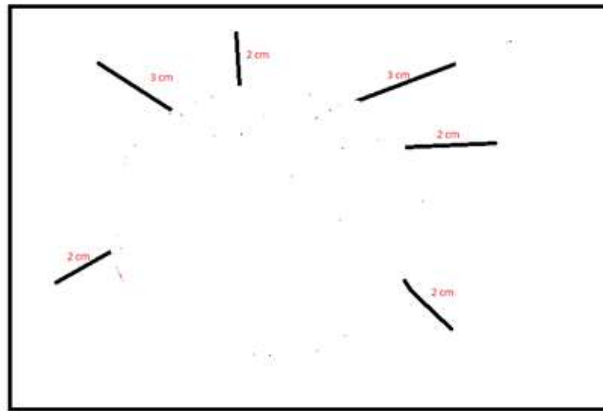
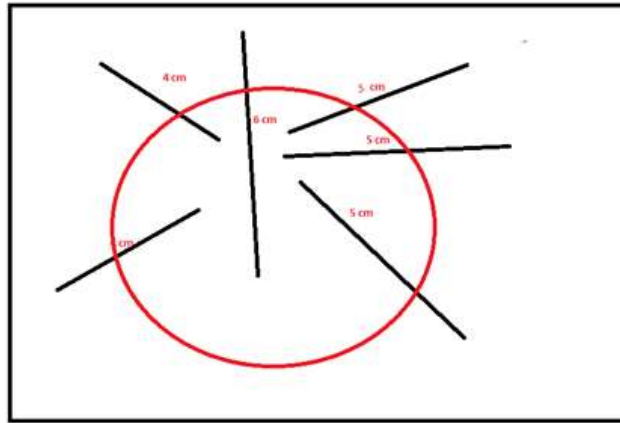
Problem : A Complicated Bomb Drop Game

TCS India has developed a funny and entertaining game. When you begin, the screen contains a number of lines. An enemy plane drops a bomb of certain radius R at a certain location (x,y) on the screen and all the portions of the lines that are within a circle of

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radius R with center (x,y) are destroyed.





After the bomb destroys the portions of the lines, compute the sum of the lengths of the lines remaining.

Input

The input consists of $N+3$ lines, where N is the number of lines.

The first line is N , the number of lines.

The second line is R , the radius of the bomb

The third line contains the coordinates of the point at which the bomb is dropped, as a pair of space separated integers (x and y)

The next N input lines contain the coordinates of the start and the end of a line on the screen. This is a set of 4 space separated integers (may be negative or 0) representing the x and y coordinates of the starting and ending point respectively of the line on the screen.

Output

A single line containing the sum of the lengths of the residual lines. This must be expressed as a number correct to two decimal places. Note that the output must always be shown with two decimal places even if the residual length is an integer. Thus, if the residual length is 16, the output must be 16.00, and if the residual length is 0, the output must be shown as 0.00

Constraints

$1 < N < 20$

$-1000 < x, y$ coordinates of lines, bomb drop < 1000

$0 < r < 1000$

Example 1

Input:

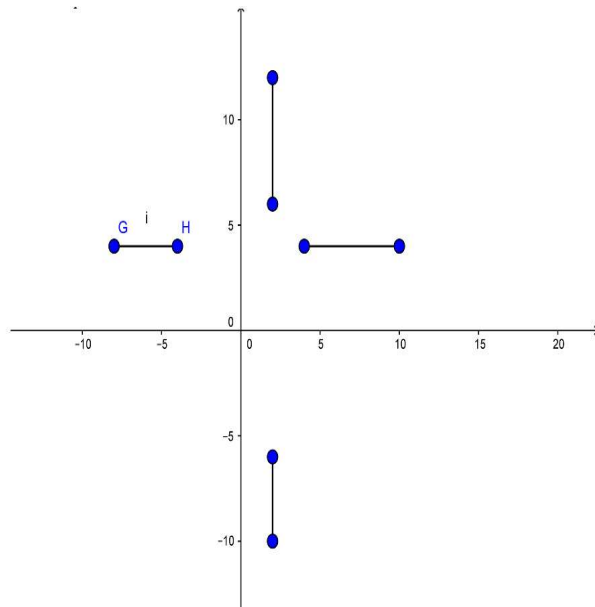
```
4
4
2 4
2 6 2 12
2 -10 2 -6
4 4 10 4
-8 4 -4 4
```

Output:

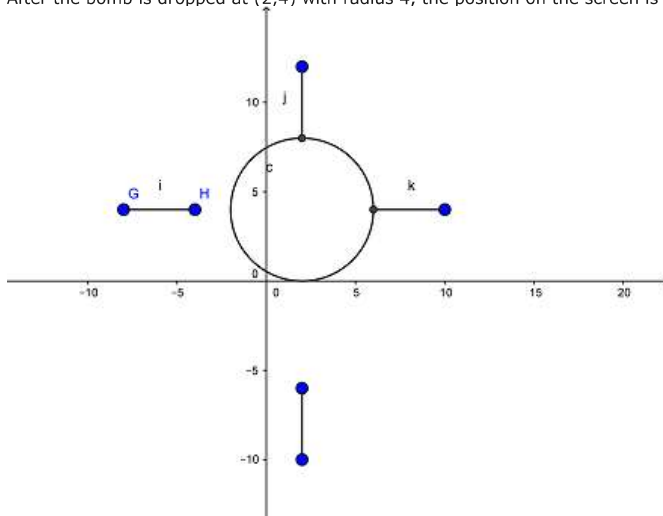
```
16.00
```

Explanation:

Before the bomb drop, the lines on the screen were as follows



After the bomb is dropped at (2,4) with radius 4, the position on the screen is



There are 4 lines, each of length 4, and hence, the total residual length is 16. The output is 16.00

Example 2

Input:

```
7
4
3 5
3 9 3 13
3 -3 3 -15
4 9 16 9
-1 9 -11 9
11 13 3 5
9 8 4 6
-1 5 -5 5
```

Output:

52.04

Explanation:

There are initially 7 lines, and the bomb is dropped at (3,5) with a radius 4. Only the fifth and sixth lines are affected by the bomb, and become 7.31 and 2.72 in length. The total residual length (correct to two decimals) is 52.04, which is the output.

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.

Submit Answer

- ☒ I, **PRAVEENKUMAR PVSM** confirm that the answer submitted is my own.
☐ I would like to provide attribution to the following sources.

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