Brightness of Brain Contest

Problem D

Time limit: 1 second Memory: 16 MB

Polygon Inside A Circle

The Problem

Consider a polygon of equal sides inside a circle as shown in the figure below.

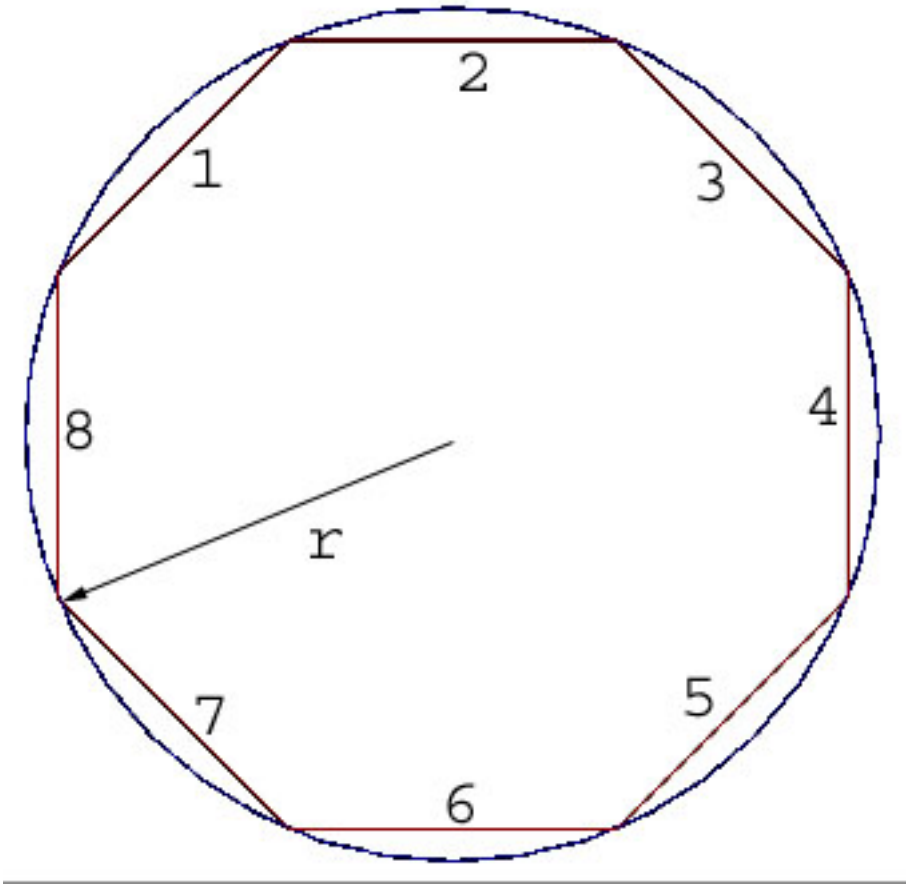

Figure: The regular polygon inside a circle

Given the radius of the circle and number of sides. You have to find the area of the polygon.

The Input

In each line there will be two numbers indicating the radius **`r'** (0<**r**<20000) and the number of sides of the polygon **`n'** (2<**n**<20000) respectively. Input is terminated by `EOF'.

The Output

Output the area in each line. The number must be rounded to the third digit after the decimal point.

Sample Input

```
2 2000
10 3000
```

Sample Output

```
12.566
314.159
```

Suman Mahbub
Created: 12-09-2002
Updated: 14-12-2002
Idea: mAruf Hasan