1066 - Regular Polygons

Description

The perimeter of a regular polygon is equal to the sum of the length of each one of its sides. In this exercise you should be calculated, the perimeter of regular **n**-sided polygon inscribed in a circumference of radius **R**, and the perimeter of regular **n**-sided polygon circumscribed to the same circumference. The value used on this problem of the constant **PI** was **3.141592653589793**.

Input specification

The first line contains the number of cases. For each case is a line with the real number **R**, and an integer **N**. For this case we have that **1 <= R <= 100** and **3 <= N <= 100**.

Output specification

For each case, two real values are printed separated by white space, rounded up to the fourth decimal place. The first corresponds to the perimeter of the polygon inscribed in the circumference, and the second the perimeter of the circumscribed polygon.

Sample input

```
4
4.0 6
4.0 17
3.14159 100
42 5
```

Sample output

```
24.0000 27.7128
24.9899 25.4228
19.7359 19.7457
246.8698 305.1479
```

Hint(s)

Source	UCI Local Contest 2010
Added by	**ejaltuna**

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Time limit (ms)	1000
Test limit (ms)	1000
Memory limit (kb)	131072
Output limit (mb)	64
Size limit (bytes)	100000
Enabled languages	C C# C++ Java Pascal Perl PHP Python Ruby Text