

# Sky Garden

Input file:            **standard input**  
Output file:         **standard output**  
Time limit:          1 second  
Memory limit:       1024 megabytes

Prof. Du and Prof. Pang plan to build a sky garden near the city of Allin. In the garden, there will be a plant maze consisting of straight and circular roads.

On the blueprint of the plant maze, Prof. Du draws  $n$  circles indicating the circular roads. All of them have center  $(0, 0)$ . The radius of the  $i$ -th circle is  $i$ .

Meanwhile, Prof. Pang draws  $m$  lines on the blueprint indicating the straight roads. All of the lines pass through  $(0, 0)$ . Each circle is divided into  $2m$  parts with equal lengths by these lines.

Let  $Q$  be the set of the  $n + m$  roads. Let  $P$  be the set of all intersections of two different roads in  $Q$ . Note that each circular road and each straight road have two intersections.

For two different points  $a \in P$  and  $b \in P$ , we define  $dis(\{a, b\})$  to be the shortest distance one needs to walk from  $a$  to  $b$  along the roads. Please calculate the sum of  $dis(\{a, b\})$  for all  $\{a, b\} \subseteq P$ .

## Input

The only line contains two integers  $n, m$  ( $1 \leq n, m \leq 500$ ).

## Output

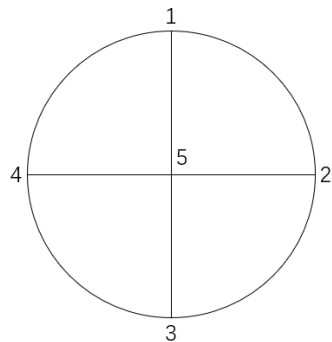
Output one number – the sum of the distances between every pair of points in  $P$ .

Your answer is considered correct if its absolute or relative error does not exceed  $10^{-6}$ .

## Examples

standard input	standard output
1 2	14.2831853072
2 3	175.4159265359

## Note



$$\begin{aligned}dis(p_1, p_2) &= dis(p_2, p_3) = dis(p_3, p_4) = dis(p_1, p_4) = \frac{\pi}{2} \\dis(p_1, p_5) &= dis(p_2, p_5) = dis(p_3, p_5) = dis(p_4, p_5) = 1 \\dis(p_1, p_3) &= dis(p_2, p_4) = 2\end{aligned}$$