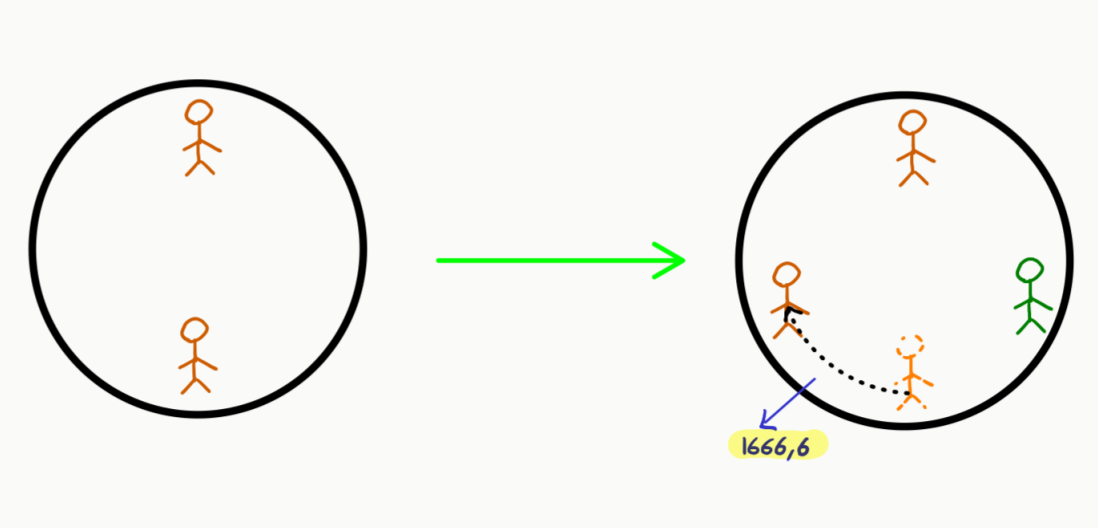
Problem L. Lame Island

The Atigh Gasht team hosts a tour. One night of this tour is spent on a small circular island. Tourists lay on some platforms placed equidistantly along the island perimeter in order to watch the fireworks.

Over time, because of the perfect quality of the tour, the number of tourists continually increases and more and more platforms are required. Thus, the formation of the platforms has to be renewed from time to time when a new group of tourists arrives.



When new platforms are added, the exact place for each can be selected arbitrarily along with the perimeter of the island, but the equidistant disposition must be maintained by moving some of the old ones along the perimeter of the island. In order to minimize human labor, the team always try to change the formation of the platforms with minimal possible movements of existing platforms. The platforms are moved along the perimeter. Help them develop a plan that minimizes the sum of travel distances of all platforms. Installation of a new platform adds no distance penalty, so choose the places for newcomers wisely!

Input

Input file contains two integer numbers: n — the number of platforms initially located at the perimeter of the island, and m – the number of platforms to be added ($2 \le n \le 1000, 1 \le m \le 1000$). The length of the appropriate space along the island perimeter is exactly 10 000 feet.

Output

Write a single real number to the output file — the minimal sum of travel distances of all platforms (in feet). The answer must be precise to at least 8 digits after decimal point.

Examples

test	answer
2 1	1666.666666667
2 3	1000.000000000
3 1	1666.666666667
10 10	0.000000000