Steps

2022/2023 SEASON – SIXTH ROUND

You are given natural numbers n and t. You have a dice with sides $\{1, 2, \dots, n\}$. When you row it each side has a probability of $\frac{1}{n}$ of occuring. On each roll you win the result of the die or you can roll again. On the t-th roll in a row, you cannot roll again and you win as much as the result of the dice.

What is your maximal expected profit?

Input

The only line of the file **dice.in** contains the numbers n and t.

Output

Print the answer in the file **dice.out**. The answer will be considered as correct if the absolute or relative error is $\leq 10^{-9}$

Constraints

$1 \leq n, t \leq 10^6$

Time limit: 0.2 sec.
Memory limit: 256 MB.

Sample test

Input (dice.in)	Output (dice.out)
2 3	1.875000000000000000