

## Problem F. Strasse

Input file: `strasse.in`  
Output file: `strasse.out`  
Time limit: 6 seconds  
Memory limit: 256 mebibytes

You're playing a generalized version of poker called  $(n, k)$ -poker. A game of  $(n, k)$ -poker consists of  $k$  rounds. In each round, an integer between 1 and  $n$  is picked independently and uniformly at random. You can then do one of the two things: either *take* this number, or *skip* it, and then the round ends.

You must take exactly three numbers, and you win if those three numbers form a *straight* — an arithmetic progression — after reordering them somehow. What is the probability of achieving this goal if you play optimally?

### Input

The only line of the input file contains two space-separated integers  $n$  and  $k$ ,  $1 \leq n \leq 10000$ ,  $3 \leq k \leq 10000$ .

### Output

Print one floating-point number: the probability of winning in  $(n, k)$ -poker if you play optimally. Your output will be considered correct if it differs from the answer by at most  $10^{-7}$ .

### Examples

<code>strasse.in</code>	<code>strasse.out</code>
4 3	0.25
2 5	0.6875

### Note

Three numbers form an arithmetic progression in some order if and only if one of the numbers is the average of the other two.