Problem F
Tight words

Problem ID: tight
CPU Time limit: 1 secor
Memory limit: 1024 ME

Source: Waterloo Progra
Contest 2001-01-27

Given is an alphabet $\{0, 1, \ldots, k\}, 0 \leq k \leq 9$. We say that a word of length n over this alphabet is tight if any two neighbour digits in the word do not differ by more than 1.

For example if $k = 2$, we may only use digits $0, 1, 2$. These are the tight words of length 2: 00, 01, 10, 11, 12, 21, 22. There are 9 words of length 2, so the percentage of tight words is $7/9 = 77.777\%$.

Input

Input is a sequence of lines, each line contains two integer numbers k and n, $1 \leq n \leq 100$.

Output

For each line of input, output the percentage of tight words of length n over the alphabet $\{0, 1, \ldots, k\}$.

The output is considered correct if it is within relative or absolute error 10^{-7}.

Sample Input 1

```
4 1
2 5
3 5
8 7
```

Sample Output 1

```
100.000000000
40.740740741
17.382812500
0.101296914
```