New 21 Game

Alice plays the following game, loosely based on the card game **"21"**.

Alice starts with 0 points and draws numbers while she has less than k points. During each draw, she gains an integer number of points randomly from the range [1, maxPts], where maxPts is an integer. Each draw is independent and the outcomes have equal probabilities.

Alice stops drawing numbers when she gets k **or more points**.

Return the probability that Alice has n or fewer points.

Answers within 10^{-5} of the actual answer are considered accepted.

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Example 1:

Input: n = 10, k = 1, maxPts = 10

Output: 1.00000

Explanation: Alice gets a single card, then stops.

Example 2:

Input: n = 6, k = 1, maxPts = 10

Output: 0.60000

Explanation: Alice gets a single card, then stops.

In 6 out of 10 possibilities, she is at or below 6 points.

Example 3:

Input: n = 21, k = 17, maxPts = 10

Output: 0.73278
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Constraints:

- $0 <= k <= n <= 10^4$
- $1 <= maxPts <= 10^4$