Problem J. Quake

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

Little Vitechka tries to pass a Boss in Quake. Every minute one of them kills the other: the Boss dies with probability p percent, and Vitechka dies with probability $100 - p$ percent. If Vitechka kills the Boss n times in total, he wins; and if the Boss kills Vitechka m times in total, Vitechka loses and starts a new game (in this case, his win counter is reset to zero). Additionally, Vitechka can restart the game any moment he likes. A restart of the game does not require any time. Find the expected time required for Vitechka to win, supposing he acts in the optimal way.

Input

The first line contains three integers n, m and p ($1 \le n, m \le 10^3$, $0 < p < 100$).

Output

Print the answer to the problem in minutes on a single line. If the answer is greater than 10^9, print the number 10^9 instead. The absolute or relative error of your answer must not exceed 10^{-6}.

Example

standard input	standard output
2 2 50	4.666666666666666