Problem A
Tribbles

Input: Standard Input
Output: Standard Output

GRAVITATION, *n.*
"The tendency of all bodies to approach one another with a strength proportion to the quantity of matter they contain -- the quantity of matter they contain being ascertained by the strength of their tendency to approach one another. This is a lovely and edifying illustration of how science, having made A the proof of B, makes B the proof of A."

Ambrose Bierce

You have a population of **k** Tribbles. This particular species of Tribbles live for exactly one day and then die. Just before death, a single Tribble has the probability $\mathbf{P_i}$ of giving birth to **i** more Tribbles. What is the probability that after **m** generations, every Tribble will be dead?

Input
The first line of input gives the number of cases, **N**. **N** test cases follow. Each one starts with a line containing **n** (1<=**n**<=1000), **k** (0<=**k**<=1000) and **m** (0<=**m**<=1000). The next **n** lines will give the probabilities $\mathbf{P_0}$, $\mathbf{P_1}$, ..., $\mathbf{P_{n-1}}$.

Output
For each test case, output one line containing "Case #**x**:" followed by the answer, correct up to an absolute or relative error of 10^{-6}.

Sample Input	Sample Output
4 3 1 1 0.33 0.34 0.33 3 1 2 0.33 0.34 0.33 3 1 2 0.5 0.0 0.5 4 2 2 0.5 0.0	Case #1: 0.3300000 Case #2: 0.4781370 Case #3: 0.6250000 Case #4: 0.3164062

0.0 0.5	

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