

Problem D

Student Clubs

Time Limit: 2 seconds

At the University of Calgary, it is time to elect student officials and the board that will regulate and oversee the functioning of student clubs. Some clubs are smaller, some larger, so the consensus was that the members of the board will be chosen from all the eligible club members uniformly at random.



Can this system really be fair to the smaller clubs?

Input

On the first line of input you are given an integer T ($1 \leq T \leq 100$), the number of test cases. Each test case will consist of two lines. On the first line you will be given integers C and B , the number of clubs and the size of the board, respectively ($2 \leq C \leq 18, B$). The second line will contain C integers, the number of eligible members from each club c_i ($1 \leq c_i \leq 18, B \leq \sum_{i=1}^C c_i \leq 60$).

Output

For each test case, output the probability that the board will have at least one representative from each student club, rounded to 6 decimal places.

Sample Input	Sample Output
4	0.666667
2 2	0.666667
1 2	0.400000
2 2	0.300000
2 2	
3 3	
2 2 2	
3 3	
1 2 3	