ChefAndPizza

The Chefs of the restaurants are asked to prepare Pizzas for their customers. The Restaurant has N chefs and each chef has a rank R(1<=R<=10). A chef with a rank R can cook x Pizzas by the given function:

F(x) = R* (x*x - x +1) .

Where F(x) is the time taken (In minutes) to make x pizzas. Here R is the rank of the chef.

The waiter has already taken the orders and wants to know the minimum time to get the orders done.

NOTE: All the chefs can make Pizzas parallelly.

Input Format

The first line tells the number of test cases. Each test case consists of 2 lines. In the first line of the test case we have P the number of Pizzas ordered and the number of chefs N. In the next line N integers denotes the rank of a chef.

Constraints

- 1<=|T|<=1000
- 1<=|P|<=1000
- 1<=|N| <=100
- 1<=Rank[i]<=10

Output Format

For each test case print an integer which tells the number of minutes needed to get the order done in a new line.

Sample Input 0

```
3
10 4
1 2 3 4
8 1
1
8 8
1 1 1 1 1 1 1 1
```

Sample Output 0

```
13
57
1
```

Explanation 0

1. For Test case 1: Chef 1 will make 4 pizzas , Chef 2 ,Chef 3, Chef 4 will make two pizzas each.
2. For Test case 2: The Chef 1 will make all 8 pizzas.

3. For Test case 3: All Chefs will make 1 pizza each.