You are given a convex polygon of N vertices. Find how many ways three vertices can be chosen such that the triangle formed by those has an area **not more than** K.

Input

The first line of input contains T which is the number of tests cases. Each case contains two integers N and K. Each of the next N lines will contain two integers: x_i y_i denoting i-th vertex of the polygon. The vertices will be given in anti-clockwise order.

Output

For each test case output one line the number of ways to choose a triangle from the vertices of the convex polygon whose area is **not more than** K.

Sample Input

```
1
5 30
-5 -5
-2 -10
3 0
1 7
-2 4
```

Sample Output

```
7
```