

```
1 // https://toph.co/p/minions-and-war
2 #include<bits/stdc++.h>
3 using namespace std;
4 #define ll long long
5 ll a[1000005],p,q,n;
6 ll fun(ll v){
7     ll ans = 0;
8     for(int i=1; i<=n; i++){
9         if(a[i]<v){
10             ans += (p*(v-a[i]));
11         }else{
12             ans += (q*(a[i]-v));
13         }
14     }
15     return ans;
16 }
17 int main(){
18     int t; scanf("%d",&t);
19     for(int ks=1; ks<=t; ks++){
20         scanf("%lld %lld %lld",&n,&p,&q);
21
22         ll mn=1000000000000000000, mx=0;
23         for(int i=1; i<=n; i++){
24             scanf("%lld",&a[i]);
25             mn = min(mn,a[i]);
26             mx = max(mx,a[i]);
27         }
28
29         ll ans = 10000000000000000005;
30         ll lo = mn;
31         ll hi = mx;
32
33         while(lo<=hi){
34             ll md1 = lo+(hi-lo)/3;
35             ll md2 = hi-(hi-lo)/3;
36
37             ll v1 = fun(md1);
38             ll v2 = fun(md2);
39
40             ans = min(ans,v1);
41             ans = min(ans,v2);
42
43             if(v1>v2){
44                 lo = md1+1;
45             }
46             else{
47                 hi = md2-1;
48             }
49         }
50
51         printf("%lld\n",ans);
52     }
53
54     return 0;
55 }
```