**Flying Jet**

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The jet's speed is changed after every mile covered on it's runway. It follows a specific pattern for the speed. Starting from 1 it goes like 1, 7, 16, 21, 81, 63, 256 . . .  and so on. Your task is to find out its speed after nth mile.

**Input:**  
The First Line of Input contains T, which denotes the number of test cases. The only line of each test case contains an integer denoting n.

**Output:**  
Print the speed of the jet at the nth mile covered before take Off.

**Constraints:**  
1<=T<=100   
1<=N<=60

**Example:  
Input:**  
2  
5  
9  
**Output:**  
81  
625

\*\*For More Examples Use Expected Output\*\*

<http://practice.geeksforgeeks.org/problems/flying-jet/0>

#include <iostream>

#include <stdio.h>

#include <vector>

#define ll long long int

using namespace std;

int main() {

int t;

scanf("%d", &t);

std::vector<ll> sec;

ll a = 1, b = 7;

ll sum\_a=3;

sec.push\_back(a\* a);

sec.push\_back(b);

for(int i = 1; i<=60; i++) {

b \*= 3;

a += sum\_a;

sec.push\_back( a \* a );

sec.push\_back(b);

sum\_a+=2;

}

while(t-- > 0) {

int n;

scanf("%d", &n);

cout << sec[n-1] << endl;

}

//system("pause");

return 0;

}