Problem 2: Big Ben's Big Birthday
3+2=5 Points

Problem ID: `birthday`
Rank: `1+2`

Introduction

This is Big Ben the Brown Bear! He's the mascot of CALICO! Here are some fun facts:

- He is 8 feet tall and weighs 1200 lbs.
- He loves eating paint and bricks.
- He will be 13 years old on 11/21/2023.
- CALICO was founded on his first birthday.
- He can prove P = NP but is too lazy to do it.
- He was named after the wrong clock tower.
- He's timeless and immortal.
- He's fluent in Python, C, Java and Fr*nch.
- He only sees you when you're sleeping.
- He will outrun you.
- He's everywhere.
- Turn around HE'S RIGHT BEHIND YOU.

Problem Statement

Big Ben uses the CALICalendar to keep track of his birthday. Each year, the number of months per year and the number of days per month both increase by 1. The first few years of the CALICalendar are shown below:

	Yr. 1	Year 2		Year 3			Year 4			
Month 1	🎂	1	2	1	2	3	1	2	3	4
Month 2		🎂	4	4	5	6	5	6	7	8
Month 3				🎂	8	9	9	10	11	12
Month 4							🎂	14	15	16

Big Ben's birthday is on the first day of the last month each year of the CALICalendar; his 1-year-old birthday was on the only day of year 1. How many days after Big Ben's 1-year-old birthday will it be his $\mathbf{N}$-year-old birthday?

*Note: Templates are available for this problem—and **all other problems in this contest**—in Python, Java, and C++! Find them in the contest.zip provided at the start of the contest. Templates handle input and output for you, so you can just fill out a single function.*

Input Format

The first line of the input contains a single integer $\mathbf{T}$ denoting the number of test cases that follow. Each test case is described in a single line containing a single integer $\mathbf{N}$ denoting the given year of Big Ben's birthday.

Output Format

For each test case, output a single line containing a single integer denoting the number of days Big Ben's $\mathbf{N}$-year-old birthday is after Big Ben's 1-year-old birthday.

*Careful! For the **bonus test set only**, if you are a Java or C/C++ programmer, be aware that the int variable type may be too small to contain the final answer! Java programmers can use variable types long or float instead, and likewise long long or float for C/C++.*

Constraints

Main Test Set

$1 \leq \mathbf{T}, \mathbf{N} \leq 100$

Bonus Test Set

$1 \leq \mathbf{T}, \mathbf{N} \leq 10^5$

Sample Test Cases

Sample Input Download

```
6
2
3
4
12
69
1
```

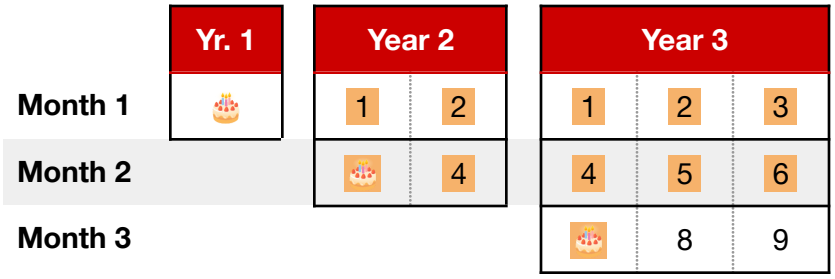
Sample Output Download

```
3
11
26
638
111826
0
```

Sample Explanations

For test case #1, we have $\mathbf{N} = 2$. Thus, we want to find out how many days Big Ben's 2-year-old birthday is after his 1-year-old birthday. There are 2 months in year 2 and 2 days in each month of year 2. There are 3 days between these two birthdays: day 1 of year 2, day 2 of year 2, and day 3 of year 2 (his 2-year-old birthday).

For test case #2, we want to find how many days Big Ben's 3-year-old birthday is after his 1-year-old birthday. There are 2 months in year 2 with 2 days in each month and 3 months in year 3 with 3 days in each month. Between these two birthdays, there are 4 days in year 2, 6 days in the first two months of year 3, and finally one more day, giving us the answer of $4 + 6 + 1 = 11$ days in total.



For test case #3, we want to find how many days Big Ben's 4-year-old birthday is after his 1-year-old birthday. Between the birthdays there are 4 days in year 2, 9 days in year 3, and 12 days in the first 3 months of week 4, and finally one more day, giving us the answer of $4 + 9 + 12 + 1 = 26$ days in total.

	Yr. 1	Year 2		Year 3			Year 4			
Month 1	🎂	1	2	1	2	3	1	2	3	4
Month 2		🎂	4	4	5	6	5	6	7	8
Month 3				🎂	8	9	9	10	11	12
Month 4							🎂	14	15	16

For test case #6, $\mathbf{N} = 1$. The number of days until his 1-year-old birthday since his 1-year-old birthday is 0 since it's the same day.

	Yr. 1
Month 1	🎂