```
In [2]:
1   #Pentagonal Number:
2
3   # on first iteration 1 dot
4   # on second iteration 6 dots (existing 1 dot + 1*5 dots)
5   # on third iteration 16 days (existing 6 dots + 2*5 dots)
6
7   n=int(input())
8   for i in range(n):
9       num=int(input())
10      s=1
11      for j in range(2,num+1):
12          s +=(j-1)*5
13      print(s)
14
```

```
2
1
1
12
331
```

```
1
```

```
In [4]:  1   # shiritori game:
         2
         3   # - the second word starting letter should match with the previous word endi
         4   # - only find the unique words
         5
         6   # jawed dowry yash home          valid
         7   # eagle eagle done               Invalid
         8   # eagle danger rash hike         Tnvalid
         9   # ajesh how worst torture        valid
        10
        11   n=int(input())
        12   for i in range(n):
        13       s = input().split()
        14       if len(s) == 1:
        15           print("Valid")
        16       else:
        17           status = True
        18           for i in range(1,len(s)):
        19               word1 = s[i]
        20               word2 = s[i-1]
        21               if word1[0]!=word2[-1]:
        22                   status = False
        23           for i in s:
        24               if s.count(i)>1:
        25                   status = False
        26           if status:
        27               print("Valid")
        28           else:
        29               print("Invalid")
        30
        31
```

```
2
jawed dowry yash home
Valid
eagle danger rash hike
Invalid
```

In [ ]: 1

In [ ]: 1

In [ ]: 1

In [ ]: 1