Project Euler #141: Investigating progressive numbers, n, which are also square.

A positive integer, n, is divided by d and the quotient and remainder are q and r respectively. In addition d, q, and r are consecutive positive integer terms in a geometric sequence, but not necessarily in that order.

For example, 58 divided by 6 has quotient 9 and remainder 4. It can also be seen that $4, 6, 9$ are consecutive terms in a geometric sequence (common ratio $3/2$). We will call such numbers, n, progressive.

Some progressive numbers, such as 9 and $10404 = 102^2$, happen to also be perfect squares. The sum of all progressive perfect squares below one hundred thousand is 124657.

Some progressive numbers, such as 730 and 4097, are very close to becoming perfect squares; in fact, their distance from the nearest perfect square is one.

Given K and L, find the sum of all progressive numbers below L that are at most K away from a perfect square.

Input Format

The first line of input contains T, the number of test cases.

Each test case consists of a single line containing two integers separated by a single space: K and L.

Constraints

$0 \leq K \leq 10^6$
$1 \leq L \leq 10^{11}$

For test cases worth 50% of the total points:
$1 \leq T \leq 40$

For test cases worth 100% of the total points:
$1 \leq T \leq 2500$

Output Format

For each test case, output one line containing a single integer: the answer for that test case.

Sample Input

```
2
0 100000
1 100000
```

Sample Output

```
124657
288467
```

Explanation

The first test case corresponds to the example given in the problem statement, so the answer is 124657.