

# Project Euler #87: Prime power triples

## Problem Statement

The smallest number expressible as the sum of a prime square, prime cube, and prime fourth power is 28. In fact, there are exactly four numbers below fifty that can be expressed in such a way:

$$28 = 2^2 + 2^3 + 2^4$$

$$33 = 3^2 + 2^3 + 2^4$$

$$49 = 5^2 + 2^3 + 2^4$$

$$47 = 2^2 + 3^3 + 2^4$$

Given an integer  $N$ , Find out how many numbers *less than or equal* to  $N$  are there that can be expressed as a sum of a prime square, prime cube and prime fourth power.

## Input Format

First line contains an integer  $T$  denoting the number of testcases.  
The next  $T$  lines contain integer  $N$ .

## Constraints

$$1 \leq T \leq 10^5$$

$$1 \leq N \leq 10^7$$

## Output Format

The  $i^{th}$  line containing the answer for the  $i^{th}$  testcase.

## Sample Input

```
1
50
```

## Sample Output

```
4
```