

题目链接:<https://projecteuler.net/problem=216>

## 题意

求#2\le n \le 5e7#有多少个n满足t(n)=2n^2-1是个质数

## 题解

先令t[i]=2\*i\*i-1

开始枚举，用类似埃式筛的思想，如果t[i]>1则令t[i+k\*t[i]]/=t[i],t[-i+k\*t[i]]/=t[i]如果t[i]=2\*i\*i-1则ans++

要证明几个关于t(n)=2n^2-1的性质:

1、若p|t(n)则p|t(n+kp)且p|t(-n+kp)

证明: 
$$\begin{aligned} t(n+p)-t(n) &= 2(n+p)^2-2n^2 \\ &= 2p(2n+p) \end{aligned}$$

若p|t(n)又因为p|(t(n+p)-t(n))所以有p|t(n+p)从而有p|t(n+kp)

p|t(-n+kp)同理

2□

From:

<https://wiki.cvbbacm.com/> - CVBB ACM Team

Permanent link:

[https://wiki.cvbbacm.com/doku.php?id=2020-2021:teams:wangzai\\_milk:wzx27:pe:201&rev=1590396197](https://wiki.cvbbacm.com/doku.php?id=2020-2021:teams:wangzai_milk:wzx27:pe:201&rev=1590396197)

Last update: 2020/05/25 16:43