

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

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

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