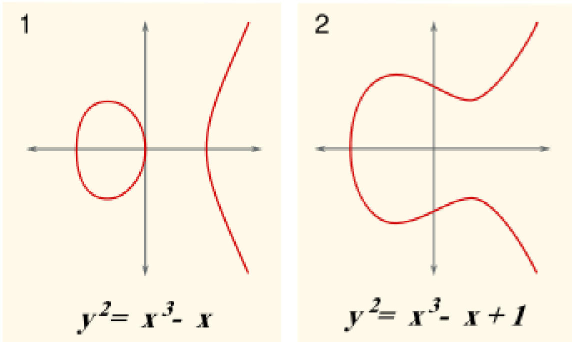

Figure 1: elliptic curves examples

Notes of a presentation.

All prime facters of $n! + 1$ is greater than n

$$\Pi(x) = \{p \le x, p \in Prime\} \; x \to \infty$$

$$\Pi(x) \sim \frac{x}{\ln x} \text{ as } x \to \infty$$

Riemann ζ

$$\xi(s) = \Gamma(s/2 + 1)(s - 1)\Pi^{-s/2}\zeta(s) \tag{0-0-1}$$

狄利克莱积分

perron formula

Selberg's identity

$$\sum_{p \le x} \log p + \sum_{pq \le x} \frac{\log p \times \log q}{\log x} = 2x + O(\frac{x}{log x})$$

Erdős

$$x^n + y^n = z^n \tag{0-0-2}$$

1^{er} Case

$$xyz \equiv 0(\mathrm{mod} n)$$

只用证明n为素数的情况

GL1,GL2

elliptic curves 整数落点

Modular form 模形式是数学上一个满足一些泛函方程与增长条件、在上半平面上的（复）解析函数。因此，模形式理论属于数论的范畴。模形式也出现在其他领域，例如代数拓扑和弦理论。

$$f(\frac{az + b}{cz + d}) = (cz + d)^k f(z) \tag{0-0-3}$$

$$a^n + b^n = z^n$$

$$y^2 = x(x-a)(x-b)$$

不存在module form

Andrew Wiles

Sir Andrew John Wiles, KBE, FRS (born 11 April 1953)[1] is a British mathematician and a Royal Society Research Professor at Oxford University, specializing in number theory. He is most famous for proving Fermat's Last Theorem.