

$$1. (A/a) \% P = (A \% (P * a)) / a$$

证: 设 $A/a = k*P + x$, 则

$$A = a * k * P + a * x$$

$$A \% (P * a) = a * x$$

$$(A \% (P * a)) / a = x$$

$$2. \text{若 } (a * b) \% P = 1, \text{ 则 } (A/a) \% P = A * b \% P$$

证: 设 $A/a = k*P + x$, 则

$$A = a * k * P + a * x$$

$$A * b = a * b * k * P + a * b * x$$

$$(A * b) \% P = x$$

3. 费马小定理

$$a^{p-1} \equiv 1 \pmod{P} \quad (P \text{ 为质数})$$

$$\text{EX: } a^n \equiv 1 \pmod{P} \quad (N \text{ 为小于 } P \text{ 与 } P \text{ 互质的数的个数})$$

例题: