PART № 2

It is two type of non-modular elliptic curves:

(A) Non-modular elliptic curves of the first type

(37)
$$\left| \begin{aligned} & Y^2 = (X^* - A^*) \times X^* \times (X^* + B^*) = \\ & = {a_0}^2 \times {b_0}^2 \times c_0^2 \end{aligned} \right.$$

(38)
$$Y = a_0 \times b_0 \times c_o$$

(39)
$$\left| \begin{aligned} & (X^* - A^*) = {a_0}^2 \\ & X^* = {b_0}^2 \\ & (X^* + B^*) = {c_0}^2 \end{aligned} \right.$$

(B) Non-modular elliptic curves of the second type

(40)
$$\left| \begin{aligned} & Y^2 = (X^* - A^*) \times X^* \times (X^* + B^*) = \\ & = {a_0}^2 (3D_n) \times {b_0}^2 (3D_n) \times {c_0}^2 (3D_n) = \\ & = 3F'_a \times 3F'_b \times 3F'_c \end{aligned} \right.$$

(41)
$$\left| \begin{aligned} & (X^* - A^*) = {a_0}^2 (3D_n) = 3F'_a \\ & X^* = {b_0}^2 (3D_n) = 3F'_b \\ & (X^* + B^*) = {c_0}^2 (3D_n) = 3F'_c \end{aligned} \right.$$

Here number A^*

WILL NOT DIVIDE INTO / BY

(42)
$$16 = 4 \times (b_0 = 2vu) = 4 \times (b_0 = 2 \times 2 \times 1)$$

if v = 2 and u = 1 .
according Fundamental arithmetic theorem

and

(43)

$$
\begin{aligned}
a_* &= \sqrt[n]{F'_a} = \sqrt[n]{{a_0}^2 \times D_n} \\
b_* &= \sqrt[n]{F'_b} = \sqrt[n]{{b_0}^2 \times D_n} \\
c_* &= \sqrt[n]{F'_c} = \sqrt[n]{{c_0}^2 \times D_n}
\end{aligned}
$$

is roots for equation by Fermat

(44)

$$
{a_*}^n + {b_*}^n = {c_*}^n
$$

and

(45)

$$
\begin{aligned}
F'_a &= a'_1 \times \alpha'_1 = a'_2 \times \alpha'_2 = a'_3 \times \alpha'_3 \\
F'_b &= b'_1 \times \beta'_1 = b'_2 \times \beta'_2 = b'_3 \times \beta'_3 \\
F'_c &= c'_1 \times \gamma'_1 = c'_2 \times \gamma'_2 = c'_3 \times \gamma'_3
\end{aligned}
$$

is elements of secondary reduction forms
of the theory numbers by H.Poincare [5], [6], [7], [8], [9], [10], [11].