It is appendix for broad interpretation of a text
GENERAL COMMENT
For my article
NON-MODULAR ELLIPTIC CURVES AS CALCULATE SOLUTIONS FOR PROBLEMS OF P.FERMAT, A.POINCARE AND A.BEAL

At our disposal we have following facts:

1. David Hilbert, while solving the problem of Gordan's invariants, presented a universal formulation of this problem I following way:

«Suppose, there is given an endless system of forms of a finite number of variables. Under whatcircumstances does a finite system of forms exist through which all others areexpressed in the form of linear combinations are integral rational functions of the variables»

Universality of the given formulation lies in the fact thatit it containsin in a generalized form the drscription of a finalsolution of the Last theorem Fermat's.

In our cause –this infinitely multitude equations:

$$a^n + b^n = c^n$$

each of which is realized at a concrete exponent of power n.

The number of the generalized variable is finite :

$$a,\ b,\ c,\ n\ .$$

In our case, use is made of three forms:

$$(E)\qquad \begin{aligned}
(a_0{}^2 \times a_0{}^{n-2}) + (b_0{}^2 \times a_0{}^{n-2}) &= (c_0{}^2 \times a_0{}^{n-2})\\
(a_0{}^2 \times b_0{}^{n-2}) + (b_0{}^2 \times b_0{}^{n-2}) &= (c_0{}^2 \times b_0{}^{n-2})\\
(a_0{}^2 \times c_0{}^{n-2}) + (b_0{}^2 \times c_0{}^{n-2}) &= (c_0{}^2 \times c_0{}^{n-2})
\end{aligned}$$

based on the Pythagor equation:

$$a_0{}^2 + b_0{}^2 = c_0{}^2$$

The integral rational functions of the variables appeared to be the proportionality coefficiens:

$$S_a = a_0^{n-2}$$

$$S_b = b_0^{n-2}$$

$$S_c = c_0^{n-2}$$

Further on, let's add term by term the obtained equations (E) and arithmetically average these sums.
As a result, we will obtain one combined equation:

(F) $$(a_0^2 \times D_n) = (b_0^2 \times D_{n)} + (c_0^2 \times D_n)$$

Here

$$D_n = (a_0^{n-2} + b_0^{n-2} + c_0^{n-2}) / 3$$

common multiplier end

$$(\ a_0\ ,\ b_0\ ,\ c_0\ )$$

primitive pythagora's triplets.

Usid equation (F), we mat write down the identification of its components:

$$a_*^n = a_0^2 \times D_n$$

$$b_*^n = b_0^2 \times D_n$$

$$c_*^n = c_0^2 \times D_n$$

From these identification equations, we derive the folloving formulas for determining roots:

$$a_* = \sqrt[n]{a_0^2 \times D_n}$$

$$b_* = \sqrt[n]{b_0^2 \times D_n}$$

$$c_* = \sqrt[n]{c_0^2 \times D_n}$$

of the basis Fermat's equations :

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

and for the more general equations:

$$\mathbf{a^n + b^n = c^n}$$

if

$$\mathbf{a = a_* \times k}$$

$$\mathbf{b = b_* \times k}$$

$$\mathbf{c = c_* \times k}$$

at any integer multiplier k from an infinite series of natural numbers , see [3].

2.Secondary forms of Numbers Theory by H. Poincare include the definite algorithm of the proof of the last theorem by P. Fermat, see. [1] , [2] , [3].

3.In 1993, in Russia was published a book, [3] , in Russian and English languages. In this book the algorithm of geometrical proof of the Last theorem is described. Algorithm is based on 9 invariant triplets given in the book under numbers (1.6) – ((1.14). Those triplets are elements of secondary forms by H. Poincare. Completeness of my proof is characterized by the fact, that it (proof) is finished with formulas , see [3] , page 7 , for calculation of all roots for Fermat's equation :

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

at all even and odd indicators of degree n .

4. Hypothesis by Shimura-Taniyama is wrong and proof of A.Wilis is questionable because there is a great variety of non-modular elliptic curves information about which is in equations by G.Frey , [4]:

(1) $$\mathbf{Y^2 = (X - A) \times X \times (X + B)}$$

This fact is easily illustrated wuth the help of equation of my elliptical curve:

(2) $$Y^2 = a_0{}^n \times b_0{}^n \times c_0{}^n$$

which comes from equation of G.Frey at
following substitutions:

(3) $$(X - A) = a_0{}^n$$
$$X = b_0{}^n$$
$$(X + B) = c_0{}^n$$

Here:

(4) $$a_0 = v^2 - u^2$$
$$b_0 = 2vu$$
$$c_0 = v^2 + u^2$$

primitive triads by Pifagora and $v > u$ are natural numbers
of different eventy.
And:

(5) $$n = 2 \text{ or } n > 2$$

It is known, that Frey's curve demonstrates features which are deeply different from feature, see.Chapter **X1.2**, paragraph A in the book [4].
I used this difference constructing my elliptical curve,see.(2).
Unlike A.Willis, my method of proof is DEDUCTIVE.
I construct ready forms of decisions being led by INTUITION.
Virtue of this method is very well described in book by R.Courant and H.Robbins "What is Mathematics?", see beginning of the book [5].

Let's envisage properties of my curve .
Let's figure out MINIMAL DISCRIMINANT of the curve,
see. [4], for first primitive triad:

(6) $$a_0 = (2^2 - 1^2) = 3$$
$$b_0 = (2 \times 2 \times 1) = 4$$
$$c_0 = (2^2 + 1^2) = 5$$

at minimal n=2 :

(7) $$\Delta = [(a_0 \times b_0 \times c_0)^{2n}]/2^8 = 50625$$

For simple n =5, minimal discriminant is equal to:

(8) $$\Delta = 23.6196 \times 10^{14}$$

As far as discriminants are not equal to zero,
curves are NON-SINGULAR.
So those are ELLIPTICAL CURVES.

To this fact also refers the fact that simple n=2
DOES NOT DEVIDE its discriminant (7).

Experts know, why number 16 has a meaning of "litmus paper"
in theory of elliptical curves.
Without details let's demonstrate this feature of number 16
on definite example for primitive triad (6).
At n=5 my curve gets determined expression:

(9) $$Y^2 = 243 \times 1024 \times 3125 = 777600000$$

At that:
16 devides 243 with oddment 3
16 devides 1024 with oddment 0
16 devides 3125 with oddment 5
16 divides number:

$$A = (b_0{}^5 - a_0{}^5) = 1024^5 - 243^5 = 1125.0526 \times 10^{12}$$

with oddment, approximate, 5 .

It means that numbers forming
the given elliptical curve can't
be compared by module d = 16 .

CONCLUSION :

MY ELLIPTICAL CURVES IS NON–MODULAR
HYPOTHESIS BY SHIMURA –TANIYAMA IS WRONG
PROOF OF A.WILIS IS UNCERTAIN

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Bibliography

1. H.Poincare, Journal de l'Ecole polytechnique, 1881, Cahier 50, 190-253.
2. V.S.Yarosh , NON-MODULAR ELLIPTIC CURVES AS CALCULATE SOLUTIONS FOR PROBLEMS OF P.FERMAT, A.POINCARE AND A.BEAL , M., 2004..
3 V.S.Yarosh, Denouement of the multicentury Enigma of Diophant and Fermat, M, «Engineer».1993.
4.P.Ribenboim, Fermat's Last Theorem for Amateurs, Springer-Verlag, New York, Inc. All Rigts Reserved, 1999.
5.R.Courant and H.Robbins, What is Mathematics?, Oxford University Press.