2 3 4

In **Table 2b**, we examine how the UPPER and LOWER branches (blue) are made from the trunk (red). In **Table 2c**, we see how the

2. $\Delta c/4 = \Delta p/4 = \Delta p/4$

3. $\Delta c/4 = \Delta p/4 = \Delta p/4$

4. $\Delta c/4 = \Delta p/4 = \Delta p/4$

5. $\Delta c/4 = \Delta p/4 = \Delta p/4$

In **Table 2a** we looked at the overall.

*The UPPER Outer Pythagorean Branch line increases its p- and c-values, by adding 4 to the running sum, \sum . (Value not \div by 4) The **LOWER Outer Plato Branch line increases its p- and c-values, by adding 8 to the running sum, \sum . (Value not \div by 4) where Upper= $_u$, Middle= $_m$, Lower= $_l$, Current= $_c$ -

Key: PPT=Primitive Pythagorean Triple; r=even # such that r²/2=st where s,t are Factor Pairs; A=Area; 4A=4Area; 8A=8Area; f=b-a & f²=(b-a)², as a² + b² = c² = 4A + f² = (8A + f²) - 4A & U/c=p.

The Tree of Pythagorean Triples branches from the 3-4-5 PPT trunk first into a 3-part main branch, each of which further branches into 2nd, 3rd, 4th, ..., tertiary branches. Each tertiary follows the lead f-value of its predecessor, but is actually formed as an intermediary to the upper and lower branches of which it is a part. All PPTs — with no repeats — are to be found. Pythagoras first discovered the UPPER branch sequence, Plato (a century later) discovered the LOWER branch sequence. The MIDDLE branch sequence follows as an intermediary, hybrid sequence of the UPPER and LOWER.

Using the Expanded Dickson Method on the BBS-ISL Matrix, every PPT branch is accounted for by the previous branch. This is done by enlisting the r,s,t,A,4A,8A,f associated values. All these values are derived directly from the respective PTT by

MIDDLE branch (red) is formed from the UPPER and LOWER (blue) branches and the trunk (red). As a <u>fractal</u>, this **Number Pattern Sequence** that defines the first branchings, continues through the entire tree. **Table 2d** shows BLUE branching to **2nd Tertiary Branches**. **Table 2e** reveals the power of *f*. **Table 2f** tells all. **Table 2g-h** follows **Table 2f** and **p**. In **Table 2i -j**, the 4th **Tertiary Branch is added**. In **Table 2l -n**, the 5th **Tertiary Branch is added**. Copyright © 2017, Reginald Brooks

Equations

Table 2s

both algebra and geometry.

Ex: 60/4=60/4=15

Ex: 112/4=112/4=28

Ex: 180/4=180/4=45

Ex: 144/4=144/4=36