

Table 2g

Tertiary Tree of Primitive Pythagorean Triples																																																																																																																																																																																																																																																																													
Trunk							1st Tertiary Branch							2nd Tertiary Branches							3rd Tertiary Branches																																																																																																																																																																																																																																																								
PPT	r	s	t	A	4A	8A	f	PPT	r	s	t	A	4A	8A	f	PPT	r	s	t	A	4A	8A	f	PPT	r	s	t	A	4A	8A	f																																																																																																																																																																																																																																														
3-4-5	2	1	2	6	24	48	1	1	20-21-29	12	8	9	210	840	1680	1	5	119-120-169	70	49	50	7140	28560	57120	1	29	217-456-505	168	49	288	49,476	197,904	395,808	239	169	696-697-985	408	288	289	242556	970224	1940448	1	169	220-459-509	170	50	289	50,490	201,960	403,920	239	169																																																																																																																																																																																																																								
																																																						9-40-41	8	1	32	180	720	1440	31	25	7-24-25	6	1	18	84	336	672	17	13	88-105-137	56	32	49	4620	18480	36960	17	25	60-91-109	42	18	49	2730	10920	21840	31	25	84-187-205	66	18	121	7,854	31,416	62,832	103	73	297-304-425	176	121	128	45144	180576	361152	7	73	105-208-233	80	25	128	10920	43680	87360	103	73	95-168-193	70	25	98	7980	31920	63840	73	53	207-224-305	126	81	98	23184	92736	185472	17	53	44-117-125	36	8	81	2574	10296	20592	73	53	52-165-173	44	8	121	4,290	17,160	34,320	113	85	319-360-481	198	121	162	57,420	229,680	459,360	41	85	175-288-337	126	49	162	25,200	100,800	201,600	113	85	39-80-89	30	9	50	1560	6240	12480	41	29	57-176-185	48	9	128	5016	20,064	40,128	119	89	51-140-149	42	9	98	3,570	14,280	28,560	89	65	252-275-373	154	98	121	34,650	138,600	277,200	23	65	120-209-241	88	32	121	12,540	50,160	100,320	89	65	136-273-305	104	32	169	18,564	74,256	148,512	137	97	396-403-565	234	162	169	79,794	319,176	638,352	7	97	115-252-277	90	25	162	14,490	57,960	115,920	137	97	85-132-157	60	25	72	5,610	22,440	44,880	47	37	133-156-205	84	49	72	8,814	35,256	70,512	23	37	16-63-65	14	2	49	504	2,016	4,032	47	37

**Table 2g**  
 Key: PPT=Primitive Pythagorean Triple; r=even # such that r/2=st where s,t are Factor Pairs; A=Area; 4A=4Area; 8A=8Area; f=b-a & f=(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 both algebra and geometry. In Table 2a we looked at the overall. 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 MIDDLE branch (red) is formed from the UPPER and LOWER (blue) branches and the trunk (red). As a fractal, 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.  
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