Comparing 1, 2, and 3 Jump Set 12-5-Stars

The images at right use different versions of the four-color *Excel* file but each stays within the confines of a 12-5-star. This allows us to introduce one additional jump notion to our tool-box.

Background. Each point of a 12-5-star spans 30° but the bottom two images split that in half because the jump of 5 is followed by a jump of 6 (or across the diameter to the midpoint on the opposite side). For example, the first angle created in the upper image is 0-5-10 but the first angle created in the middle and lower image is 0-5-11 so this curved-tip angle is 15° = 180/12.

Image density. The middle image show much less cross-hatching than the first image. Each color uses between 636 and 660 lines in the upper image (12**S** per color although many lines overlap). Since the middle image uses two 15° curves to create each 30° angle, there are twice as many lines in that image (24**S** per color). Twice as many lines are packed into essentially the same corner thereby increasing the color density of the image.

Of course, the third image looks like it has half as many lines as the middle image because one side of the 30° angle appears empty. *This is due to a trick that introduces asymmetry.*

What *J* = 0 does. A jump of zero puts another vertex of the VF on top of the vertex that it is already at. This creates **S** subdivisions all at this vertex as well. What has happened is that, **since *P* < *S*, the ENTIRE curve is swallowed up at the vertex**.

Consider the image at bottom left with *P* = 7 > 5 = **S**. The hexagon has 6 vertices but 9 = 36/4 used vertices since 0, 4, and 8 are used twice. Notice the three lines that are 1 subdivision away from each of those vertices. It looks like *P* = 2 for these three lines but that is an illusion because there are 5 subdivisions AT THOSE VERTICES, so *P* = 7 = 1+5+1 at vertices 0, 4, and 8. This is also why 6 lines are at these vertices not two like at 2, 6, and 10.

(S, P)		Hours Jumped
(53, 11)		5
(53, 17)		
(54, 23)		
(55, 29)		

(S, P)		Repeated Hour Jumps
(53, 11)		(5, 6)
(53, 17)		
(54, 23)		
(55, 29)		

(S, P)		Repeated Hour Jumps
		(2, 2, 0)
(5, 7)		4 VCF

(S, P)		Repeated Hour Jumps
(53, 11)		(5, 6, 0)
(53, 17)		
(54, 23)		
(55, 29)		