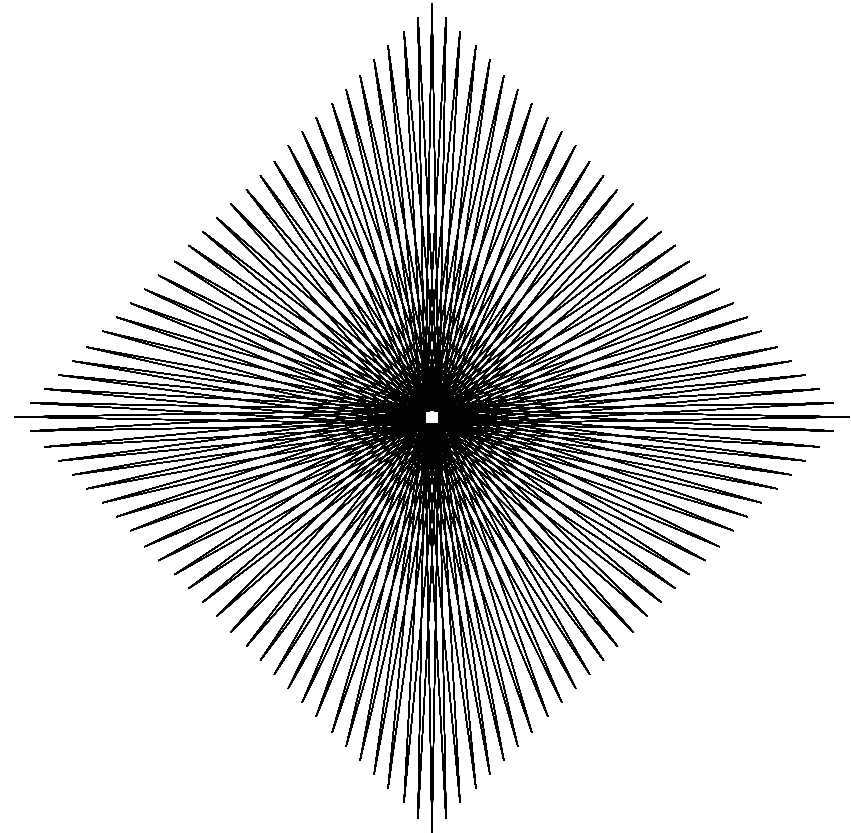
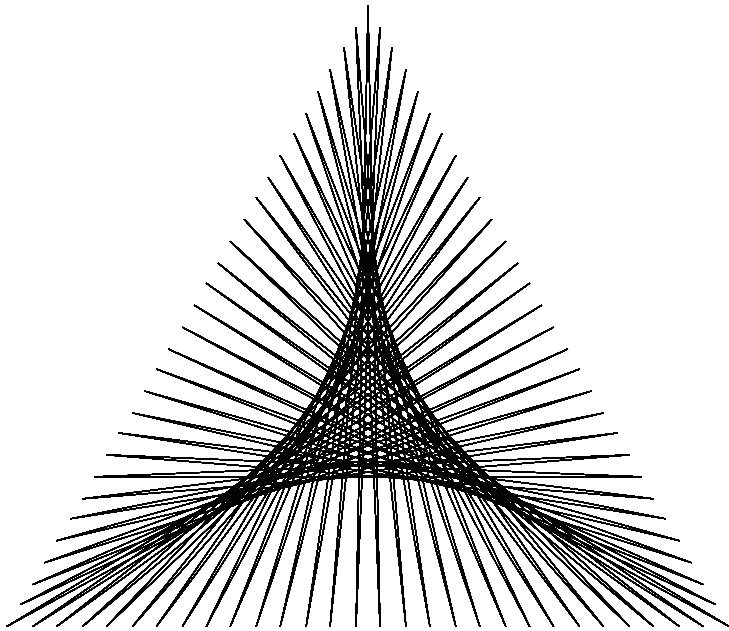


Porcupine Polygons

(Porcupine images are created when P is the largest number less than (or smallest number larger than) $n*S/2$)

A porcupine polygon is one you would not want to step on. The internal body is surrounded by needle like armor. Images such as these occur whenever P is as close as possible to $S*n/2$ without equaling that number. If $P = S*n/2$, a vertical line results. The two examples below show $S = 29$. When n is odd, the internal structure appears star-like (for $n \geq 5$) and when n is even, the internal structure is more polygonal in nature.



Images such as these are fun to watch being drawn. The links below take you to the companion website. Click Toggle Drawing to watch this happen. Can you explain why the image rotates as it does ... and why that rotation reverses if you increase P to 44 in the first or 59 in the second link?

<https://www.playingwithpolygons.com?vertex=3&subdivisions=29&points=43&jumps=1>

<https://www.playingwithpolygons.com?vertex=4&subdivisions=29&points=57&jumps=1>