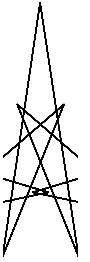


11.12. Clothespins as Spinning Needle Stars Turned Inside-Out

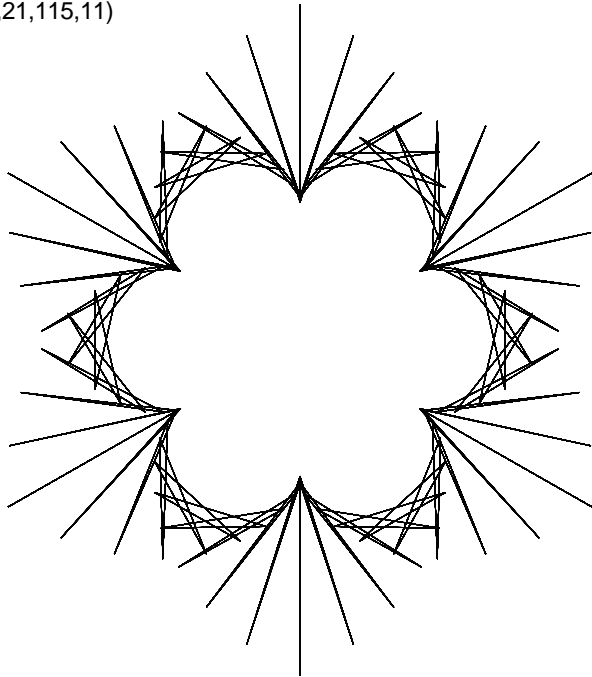
As noted at various points in ESA, changing a parameter by 1 sometimes produces entirely different images. Such is the case with **some** spinning needle stars, SNS (examined in 11.8.1, 11.8.2 and 9.6). Some SNS turn into traditional clothespins (CP) by changing P by 1. (For those who are on the younger side, a clothespin has two sides that form a sharp A-frame with a spring holding the sides together (Google it).) Only 2 of the 11 SNS noted in 11.8.1 do so. These are: [\(30,19,219,13\)](#) 10-point SNS, add 1 for 9 CP with 57 lines; and [\(30,28,323,13\)](#) 30-point SNS, add 1 for 10 CP with 70 lines.



The two examples below decrease P by 1 from left to right. Top row [\(30,21,115,11\)](#) 6-point SNS to 15 CP. Bottom row [\(42,23,57,17\)](#) 14-point SNS to 9 CP (note: only 3 of the 9 are at polygonal vertices). In each instance, the direction in which the CP is drawn is the opposite direction from which the SNS is drawn. Curves between points for CP appear to be on the outside, the reverse of SNS. Here are two more CP examples: [\(50,19,125,23\)](#) 6 CP, and [\(42,3,56,17\)](#) 3 CP.

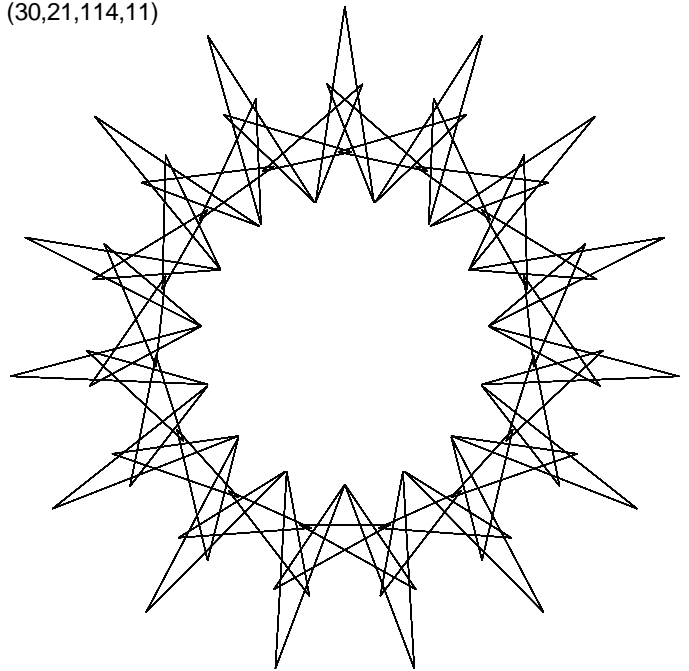
(n, S, P, J)
(30,21,115,11)

126 lines



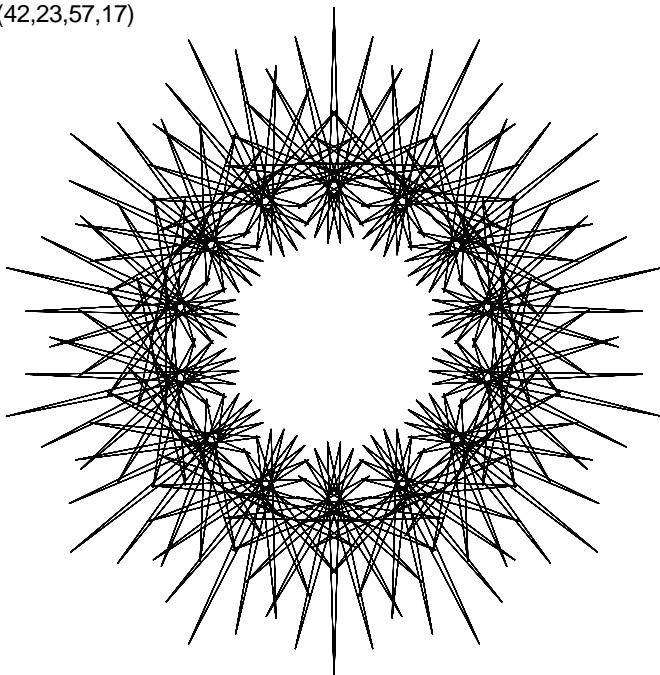
(n, S, P, J)
(30,21,114,11)

105 lines



(n, S, P, J)
(42,23,57,17)

322 lines



(n, S, P, J)
(42,23,56,17)

69 lines

