SpiroChart 2.1

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USA

CHANGE THESE TO ANY VALUE
(POSITIVE, NEGATIVE, ZERO, INTEGERS, FRACTIONS, DECIMAL)

-8	=q. Controls number of loops in completed pattern. A negative value causes the loops to turn cloc
1	=degree interval that points are plotted. Large prime numbers provide the thickest net. Small numl
1.3	=r_o. Major radius. Indicates distance of the minor axis from center of the figure.
0.7	=r_1. Minor radius. Controls fluctuation in distance of points from center of figure.
0	=degrees figure rotated. Setting this value to -psi/q when phi = 0 will allign the figure to be symmet
0	=degrees points are moved through the figure. (Incrementally decreasing this number by the same
65	=phi. Degrees minor axis turned with respect to vertical. Add or subtract180 to spin minor loops in
2	=phi multiplier. Nonzero values will cause minor axis to continue spinning around ray axis.
60	=psi. Angle of minor axis with respect to ray pointing out from center of chart (0 degrees as measu
-7.5	=suggested value to rotate figure when phi=0. Adding or subtracting a multiple of this nu

	0.02	=plotting interval (radians)
DO NOT	0.00	=figure rotation (radians)
CHANGE	0.00	=point rotation (radians)
	1.13	=phi (radians)
	1.05	=psi (radians)

Theta (degrees)	Theta (radians)	Spin (radians)	PhiSpin (radians)	X1	Y1	X1r	Y1r	THETA (radians)	Xplot
Max				-0.6983	-0.6130	0.6020	-0.6119		-1.9887
Min				0.7000	0.6059	1.9976	0.6079		1.9887
0	0.00	0.00	1.13	0.7000	0.0000	1.6500	0.6062	0.00	1.6500
1	0.02	-0.14	0.86	0.6932	-0.0639	1.7019	0.5684	0.02	1.6918
2	0.03	-0.28	0.58	0.6729	-0.1618	1.7766	0.5018	0.03	1.7580
3	0.05	-0.42	0.30	0.6395	-0.2723	1.8555	0.4177	0.05	1.8311
4	0.07	-0.56	0.02	0.5936	-0.3709	1.9180	0.3287	0.07	1.8904
5	0.09	-0.70	-0.26	0.5362	-0.4346	1.9445	0.2471	0.09	1.9156
6	0.10	-0.84	-0.54	0.4684	-0.4459	1.9204	0.1827	0.10	1.8907
7	0.12	-0.98	-0.82	0.3914	-0.3958	1.8385	0.1411	0.12	1.8076
8	0.14	-1.12	-1.10	0.3069	-0.2856	1.7008	0.1229	0.14	1.6671
9	0.16	-1.26	-1.38	0.2163	-0.1270	1.5182	0.1238	0.16	1.4801
10	0.17	-1.40	-1.66	0.1216	0.0601	1.3087	0.1353	0.17	1.2654
11	0.19	-1.54	-1.94	0.0244	0.2507	1.0951	0.1465	0.19	1.0470
12	0.21	-1.68	-2.22	-0.0732	0.4190	0.9006	0.1461	0.21	0.8505
13	0.23	-1.82	-2.50	-0.1693	0.5424	0.7456	0.1246	0.23	0.6984

14	0.24	-1.95	-2.78	-0.2622	0.6059	0.6441	0.0759	0.24	0.6067
15	0.26	-2.09	-3.05	-0.3500	0.6039	0.6020	-0.0012	0.26	0.5818
16	0.28	-2.23	-3.33	-0.4310	0.5415	0.6156	-0.1025	0.28	0.6200
17	0.30	-2.37	-3.61	-0.5035	0.4333	0.6730	-0.2194	0.30	0.7078
18	0.31	-2.51	-3.89	-0.5663	0.3009	0.7562	-0.3400	0.31	0.8243
19	0.33	-2.65	-4.17	-0.6181	0.1693	0.8444	-0.4506	0.33	0.9451
20	0.35	-2.79	-4.45	-0.6578	0.0620	0.9174	-0.5387	0.35	1.0464
21	0.37	-2.93	-4.73	-0.6847	-0.0025	0.9598	-0.5942	0.37	1.1091
22	0.38	-3.07	-5.01	-0.6983	-0.0143	0.9632	-0.6119	0.38	1.1223
23	0.40	-3.21	-5.29	-0.6983	0.0266	0.9278	-0.5914	0.40	1.0852
24	0.42	-3.35	-5.57	-0.6847	0.1098	0.8625	-0.5381	0.42	1.0068
25	0.44	-3.49	-5.85	-0.6578	0.2170	0.7832	-0.4612	0.44	0.9047
26	0.45	-3.63	-6.13	-0.6181	0.3246	0.7099	-0.3730	0.45	0.8015
27	0.47	-3.77	-6.41	-0.5663	0.4084	0.6632	-0.2862	0.47	0.7208
28	0.49	-3.91	-6.68	-0.5035	0.4476	0.6606	-0.2123	0.49	0.6829
29	0.51	-4.05	-6.96	-0.4310	0.4287	0.7133	-0.1589	0.51	0.7009
30	0.52	-4.19	-7.24	-0.3500	0.3477	0.8239	-0.1293	0.52	0.7781
31	0.54	-4.33	-7.52	-0.2622	0.2113	0.9859	-0.1214	0.54	0.9076
32	0.56	-4.47	-7.80	-0.1693	0.0355	1.1845	-0.1289	0.56	1.0728
33	0.58	-4.61	-8.08	-0.0732	-0.1566	1.3990	-0.1417	0.58	1.2505
34	0.59	-4.75	-8.36	0.0244	-0.3392	1.6059	-0.1484	0.59	1.4144
35	0.61	-4.89	-8.64	0.1216	-0.4875	1.7829	-0.1385	0.61	1.5399
36	0.63	-5.03	-8.92	0.2163	-0.5823	1.9124	-0.1038	0.63	1.6082
37	0.65	-5.17	-9.20	0.3069	-0.6130	1.9843	-0.0408	0.65	1.6093
38	0.66	-5.31	-9.48	0.3914	-0.5795	1.9976	0.0492	0.66	1.5438
39	0.68	-5.45	-9.76	0.4684	-0.4919	1.9602	0.1597	0.68	1.4228
40	0.70	-5.59	-10.04	0.5362	-0.3686	1.8873	0.2801	0.70	1.2657
41	0.72	-5.72	-10.31	0.5936	-0.2334	1.7990	0.3974	0.72	1.0970
42	0.73	-5.86	-10.59	0.6395	-0.1112	1.7161	0.4982	0.73	0.9419
43	0.75	-6.00	-10.87	0.6729	-0.0235	1.6568	0.5710	0.75	0.8223
44	0.77	-6.14	-11.15	0.6932	0.0152	1.6334	0.6079	0.77	0.7527
45	0.79	-6.28	-11.43	0.7000	0.0000	1.6500	0.6062	0.79	0.7381
46	0.80	-6.42	-11.71	0.6932	-0.0639	1.7019	0.5684	0.80	0.7734
47	0.82	-6.56	-11.99	0.6729	-0.1618	1.7766	0.5018	0.82	0.8446
48	0.84	-6.70	-12.27	0.6395	-0.2723	1.8555	0.4177	0.84	0.9312
49	0.86	-6.84	-12.55	0.5936	-0.3709	1.9180	0.3287	0.86	1.0103
50	0.87	-6.98	-12.83	0.5362	-0.4346	1.9445	0.2471	0.87	1.0606
51	0.89	-7.12	-13.11	0.4684	-0.4459	1.9204	0.1827	0.89	1.0665
52	0.91	-7.26	-13.39	0.3914	-0.3958	1.8385	0.1411	0.91	1.0207
53	0.93	-7.40	-13.67	0.3069	-0.2856	1.7008	0.1229	0.93	0.9254
54	0.94	-7.54	-13.95	0.2163	-0.1270	1.5182	0.1238	0.94	0.7922
55	0.96	-7.68	-14.22	0.1216	0.0601	1.3087	0.1353	0.96	0.6398
56	0.98	-7.82	-14.50	0.0244	0.2507	1.0951	0.1465	0.98	0.4909
57	0.99	-7.96	-14.78	-0.0732	0.4190	0.9006	0.1461	0.99	0.3680

58	1.01	-8.10	-15.06	-0.1693	0.5424	0.7456	0.1246	1.01	0.2895
59	1.03	-8.24	-15.34	-0.2622	0.6059	0.6441	0.0759	1.03	0.2667
60	1.05	-8.38	-15.62	-0.3500	0.6039	0.6020	-0.0012	1.05	0.3020
61	1.06	-8.52	-15.90	-0.4310	0.5415	0.6156	-0.1025	1.06	0.3881
62	1.08	-8.66	-16.18	-0.5035	0.4333	0.6730	-0.2194	1.08	0.5097
63	1.10	-8.80	-16.46	-0.5663	0.3009	0.7562	-0.3400	1.10	0.6463
64	1.12	-8.94	-16.74	-0.6181	0.1693	0.8444	-0.4506	1.12	0.7752
65	1.13	-9.08	-17.02	-0.6578	0.0620	0.9174	-0.5387	1.13	0.8759
66	1.15	-9.22	-17.30	-0.6847	-0.0025	0.9598	-0.5942	1.15	0.9333
67	1.17	-9.35	-17.58	-0.6983	-0.0143	0.9632	-0.6119	1.17	0.9396
68	1.19	-9.49	-17.85	-0.6983	0.0266	0.9278	-0.5914	1.19	0.8959
69	1.20	-9.63	-18.13	-0.6847	0.1098	0.8625	-0.5381	1.20	0.8114
70	1.22	-9.77	-18.41	-0.6578	0.2170	0.7832	-0.4612	1.22	0.7012
71	1.24	-9.91	-18.69	-0.6181	0.3246	0.7099	-0.3730	1.24	0.5838
72	1.26	-10.05	-18.97	-0.5663	0.4084	0.6632	-0.2862	1.26	0.4772
73	1.27	-10.19	-19.25	-0.5035	0.4476	0.6606	-0.2123	1.27	0.3961
74	1.29	-10.33	-19.53	-0.4310	0.4287	0.7133	-0.1589	1.29	0.3493
75	1.31	-10.47	-19.81	-0.3500	0.3477	0.8239	-0.1293	1.31	0.3381
76	1.33	-10.61	-20.09	-0.2622	0.2113	0.9859	-0.1214	1.33	0.3563
77	1.34	-10.75	-20.37	-0.1693	0.0355	1.1845	-0.1289	1.34	0.3920
78	1.36	-10.89	-20.65	-0.0732	-0.1566	1.3990	-0.1417	1.36	0.4294
79	1.38	-11.03	-20.93	0.0244	-0.3392	1.6059	-0.1484	1.38	0.4521
80	1.40	-11.17	-21.21	0.1216	-0.4875	1.7829	-0.1385	1.40	0.4460
81	1.41	-11.31	-21.49	0.2163	-0.5823	1.9124	-0.1038	1.41	0.4017
82	1.43	-11.45	-21.76	0.3069	-0.6130	1.9843	-0.0408	1.43	0.3165
83	1.45	-11.59	-22.04	0.3914	-0.5795	1.9976	0.0492	1.45	0.1946
84	1.47	-11.73	-22.32	0.4684	-0.4919	1.9602	0.1597	1.47	0.0461
85	1.48	-11.87	-22.60	0.5362	-0.3686	1.8873	0.2801	1.48	-0.1145
86	1.50	-12.01	-22.88	0.5936	-0.2334	1.7990	0.3974	1.50	-0.2709
87	1.52	-12.15	-23.16	0.6395	-0.1112	1.7161	0.4982	1.52	-0.4077
88	1.54	-12.29	-23.44	0.6729	-0.0235	1.6568	0.5710	1.54	-0.5128
89	1.55	-12.43	-23.72	0.6932	0.0152	1.6334	0.6079	1.55	-0.5793
90	1.57	-12.57	-24.00	0.7000	0.0000	1.6500	0.6062	1.57	-0.6062
91	1.59	-12.71	-24.28	0.6932	-0.0639	1.7019	0.5684	1.59	-0.5980
92	1.61	-12.85	-24.56	0.6729	-0.1618	1.7766	0.5018	1.61	-0.5635
93	1.62	-12.99	-24.84	0.6395	-0.2723	1.8555	0.4177	1.62	-0.5142
94	1.64	-13.12	-25.12	0.5936	-0.3709	1.9180	0.3287	1.64	-0.4617
95	1.66	-13.26	-25.39	0.5362	-0.4346	1.9445	0.2471	1.66	-0.4156
96	1.68	-13.40	-25.67	0.4684	-0.4459	1.9204	0.1827	1.68	-0.3824
97	1.69	-13.54	-25.95	0.3914	-0.3958	1.8385	0.1411	1.69	-0.3641
98	1.71	-13.68	-26.23	0.3069	-0.2856	1.7008	0.1229	1.71	-0.3584
99	1.73	-13.82	-26.51	0.2163	-0.1270	1.5182	0.1238	1.73	-0.3598
100	1.75	-13.96	-26.79	0.1216	0.0601	1.3087	0.1353	1.75	-0.3605
101	1.76	-14.10	-27.07	0.0244	0.2507	1.0951	0.1465	1.76	-0.3528

102	1.78	-14.24	-27.35	-0.0732	0.4190	0.9006	0.1461	1.78	-0.3302
103	1.80	-14.38	-27.63	-0.1693	0.5424	0.7456	0.1246	1.80	-0.2891
104	1.82	-14.52	-27.91	-0.2622	0.6059	0.6441	0.0759	1.82	-0.2294
105	1.83	-14.66	-28.19	-0.3500	0.6039	0.6020	-0.0012	1.83	-0.1547
106	1.85	-14.80	-28.47	-0.4310	0.5415	0.6156	-0.1025	1.85	-0.0712
107	1.87	-14.94	-28.75	-0.5035	0.4333	0.6730	-0.2194	1.87	0.0131
108	1.88	-15.08	-29.02	-0.5663	0.3009	0.7562	-0.3400	1.88	0.0897
109	1.90	-15.22	-29.30	-0.6181	0.1693	0.8444	-0.4506	1.90	0.1512
110	1.92	-15.36	-29.58	-0.6578	0.0620	0.9174	-0.5387	1.92	0.1924
111	1.94	-15.50	-29.86	-0.6847	-0.0025	0.9598	-0.5942	1.94	0.2108
112	1.95	-15.64	-30.14	-0.6983	-0.0143	0.9632	-0.6119	1.95	0.2065
113	1.97	-15.78	-30.42	-0.6983	0.0266	0.9278	-0.5914	1.97	0.1819
114	1.99	-15.92	-30.70	-0.6847	0.1098	0.8625	-0.5381	1.99	0.1407
115	2.01	-16.06	-30.98	-0.6578	0.2170	0.7832	-0.4612	2.01	0.0870
116	2.02	-16.20	-31.26	-0.6181	0.3246	0.7099	-0.3730	2.02	0.0240
117	2.04	-16.34	-31.54	-0.5663	0.4084	0.6632	-0.2862	2.04	-0.0460
118	2.06	-16.48	-31.82	-0.5035	0.4476	0.6606	-0.2123	2.06	-0.1227
119	2.08	-16.62	-32.10	-0.4310	0.4287	0.7133	-0.1589	2.08	-0.2068
120	2.09	-16.76	-32.38	-0.3500	0.3477	0.8239	-0.1293	2.09	-0.3000
121	2.11	-16.89	-32.66	-0.2622	0.2113	0.9859	-0.1214	2.11	-0.4037
122	2.13	-17.03	-32.93	-0.1693	0.0355	1.1845	-0.1289	2.13	-0.5184
123	2.15	-17.17	-33.21	-0.0732	-0.1566	1.3990	-0.1417	2.15	-0.6432
124	2.16	-17.31	-33.49	0.0244	-0.3392	1.6059	-0.1484	2.16	-0.7750
125	2.18	-17.45	-33.77	0.1216	-0.4875	1.7829	-0.1385	2.18	-0.9092
126	2.20	-17.59	-34.05	0.2163	-0.5823	1.9124	-0.1038	2.20	-1.0401
127	2.22	-17.73	-34.33	0.3069	-0.6130	1.9843	-0.0408	2.22	-1.1616
128	2.23	-17.87	-34.61	0.3914	-0.5795	1.9976	0.0492	2.23	-1.2686
129	2.25	-18.01	-34.89	0.4684	-0.4919	1.9602	0.1597	2.25	-1.3577
130	2.27	-18.15	-35.17	0.5362	-0.3686	1.8873	0.2801	2.27	-1.4277
131	2.29	-18.29	-35.45	0.5936	-0.2334	1.7990	0.3974	2.29	-1.4801
132	2.30	-18.43	-35.73	0.6395	-0.1112	1.7161	0.4982	2.30	-1.5185
133	2.32	-18.57	-36.01	0.6729	-0.0235	1.6568	0.5710	2.32	-1.5475
134	2.34	-18.71	-36.29	0.6932	0.0152	1.6334	0.6079	2.34	-1.5720
135	2.36	-18.85	-36.56	0.7000	0.0000	1.6500	0.6062	2.36	-1.5954
136	2.37	-18.99	-36.84	0.6932	-0.0639	1.7019	0.5684	2.37	-1.6191
137	2.39	-19.13	-37.12	0.6729	-0.1618	1.7766	0.5018	2.39	-1.6416
138	2.41	-19.27	-37.40	0.6395	-0.2723	1.8555	0.4177	2.41	-1.6584
139	2.43	-19.41	-37.68	0.5936	-0.3709	1.9180	0.3287	2.43	-1.6632
140	2.44	-19.55	-37.96	0.5362	-0.4346	1.9445	0.2471	2.44	-1.6484
141	2.46	-19.69	-38.24	0.4684	-0.4459	1.9204	0.1827	2.46	-1.6074
142	2.48	-19.83	-38.52	0.3914	-0.3958	1.8385	0.1411	2.48	-1.5356
143	2.50	-19.97	-38.80	0.3069	-0.2856	1.7008	0.1229	2.50	-1.4323
144	2.51	-20.11	-39.08	0.2163	-0.1270	1.5182	0.1238	2.51	-1.3010
145	2.53	-20.25	-39.36	0.1216	0.0601	1.3087	0.1353	2.53	-1.1497

146	2.55	-20.39	-39.64	0.0244	0.2507	1.0951	0.1465	2.55	-0.9898
147	2.57	-20.53	-39.92	-0.0732	0.4190	0.9006	0.1461	2.57	-0.8349
148	2.58	-20.66	-40.19	-0.1693	0.5424	0.7456	0.1246	2.58	-0.6983
149	2.60	-20.80	-40.47	-0.2622	0.6059	0.6441	0.0759	2.60	-0.5912
150	2.62	-20.94	-40.75	-0.3500	0.6039	0.6020	-0.0012	2.62	-0.5208
151	2.64	-21.08	-41.03	-0.4310	0.5415	0.6156	-0.1025	2.64	-0.4887
152	2.65	-21.22	-41.31	-0.5035	0.4333	0.6730	-0.2194	2.65	-0.4912
153	2.67	-21.36	-41.59	-0.5663	0.3009	0.7562	-0.3400	2.67	-0.5195
154	2.69	-21.50	-41.87	-0.6181	0.1693	0.8444	-0.4506	2.69	-0.5614
155	2.71	-21.64	-42.15	-0.6578	0.0620	0.9174	-0.5387	2.71	-0.6038
156	2.72	-21.78	-42.43	-0.6847	-0.0025	0.9598	-0.5942	2.72	-0.6352
157	2.74	-21.92	-42.71	-0.6983	-0.0143	0.9632	-0.6119	2.74	-0.6476
158	2.76	-22.06	-42.99	-0.6983	0.0266	0.9278	-0.5914	2.76	-0.6387
159	2.78	-22.20	-43.27	-0.6847	0.1098	0.8625	-0.5381	2.78	-0.6124
160	2.79	-22.34	-43.55	-0.6578	0.2170	0.7832	-0.4612	2.79	-0.5782
161	2.81	-22.48	-43.83	-0.6181	0.3246	0.7099	-0.3730	2.81	-0.5498
162	2.83	-22.62	-44.10	-0.5663	0.4084	0.6632	-0.2862	2.83	-0.5423
163	2.84	-22.76	-44.38	-0.5035	0.4476	0.6606	-0.2123	2.84	-0.5697
164	2.86	-22.90	-44.66	-0.4310	0.4287	0.7133	-0.1589	2.86	-0.6418
165	2.88	-23.04	-44.94	-0.3500	0.3477	0.8239	-0.1293	2.88	-0.7623
166	2.90	-23.18	-45.22	-0.2622	0.2113	0.9859	-0.1214	2.90	-0.9272
167	2.91	-23.32	-45.50	-0.1693	0.0355	1.1845	-0.1289	2.91	-1.1252
168	2.93	-23.46	-45.78	-0.0732	-0.1566	1.3990	-0.1417	2.93	-1.3390
169	2.95	-23.60	-46.06	0.0244	-0.3392	1.6059	-0.1484	2.95	-1.5481
170	2.97	-23.74	-46.34	0.1216	-0.4875	1.7829	-0.1385	2.97	-1.7318
171	2.98	-23.88	-46.62	0.2163	-0.5823	1.9124	-0.1038	2.98	-1.8726
172	3.00	-24.02	-46.90	0.3069	-0.6130	1.9843	-0.0408	3.00	-1.9593
173	3.02	-24.16	-47.18	0.3914	-0.5795	1.9976	0.0492	3.02	-1.9887
174	3.04	-24.29	-47.46	0.4684	-0.4919	1.9602	0.1597	3.04	-1.9661
175	3.05	-24.43	-47.73	0.5362	-0.3686	1.8873	0.2801	3.05	-1.9045
176	3.07	-24.57	-48.01	0.5936	-0.2334	1.7990	0.3974	3.07	-1.8223
177	3.09	-24.71	-48.29	0.6395	-0.1112	1.7161	0.4982	3.09	-1.7398
178	3.11	-24.85	-48.57	0.6729	-0.0235	1.6568	0.5710	3.11	-1.6757
179	3.12	-24.99	-48.85	0.6932	0.0152	1.6334	0.6079	3.12	-1.6438
180	3.14	-25.13	-49.13	0.7000	0.0000	1.6500	0.6062	3.14	-1.6500
181	3.16	-25.27	-49.41	0.6932	-0.0639	1.7019	0.5684	3.16	-1.6918
182	3.18	-25.41	-49.69	0.6729	-0.1618	1.7766	0.5018	3.18	-1.7580
183	3.19	-25.55	-49.97	0.6395	-0.2723	1.8555	0.4177	3.19	-1.8311
184	3.21	-25.69	-50.25	0.5936	-0.3709	1.9180	0.3287	3.21	-1.8904
185	3.23	-25.83	-50.53	0.5362	-0.4346	1.9445	0.2471	3.23	-1.9156
186	3.25	-25.97	-50.81	0.4684	-0.4459	1.9204	0.1827	3.25	-1.8907
187	3.26	-26.11	-51.09	0.3914	-0.3958	1.8385	0.1411	3.26	-1.8076
188	3.28	-26.25	-51.37	0.3069	-0.2856	1.7008	0.1229	3.28	-1.6671
189	3.30	-26.39	-51.64	0.2163	-0.1270	1.5182	0.1238	3.30	-1.4801

190	3.32	-26.53	-51.92	0.1216	0.0601	1.3087	0.1353	3.32	-1.2654
191	3.33	-26.67	-52.20	0.0244	0.2507	1.0951	0.1465	3.33	-1.0470
192	3.35	-26.81	-52.48	-0.0732	0.4190	0.9006	0.1461	3.35	-0.8505
193	3.37	-26.95	-52.76	-0.1693	0.5424	0.7456	0.1246	3.37	-0.6984
194	3.39	-27.09	-53.04	-0.2622	0.6059	0.6441	0.0759	3.39	-0.6067
195	3.40	-27.23	-53.32	-0.3500	0.6039	0.6020	-0.0012	3.40	-0.5818
196	3.42	-27.37	-53.60	-0.4310	0.5415	0.6156	-0.1025	3.42	-0.6200
197	3.44	-27.51	-53.88	-0.5035	0.4333	0.6730	-0.2194	3.44	-0.7078
198	3.46	-27.65	-54.16	-0.5663	0.3009	0.7562	-0.3400	3.46	-0.8243
199	3.47	-27.79	-54.44	-0.6181	0.1693	0.8444	-0.4506	3.47	-0.9451
200	3.49	-27.93	-54.72	-0.6578	0.0620	0.9174	-0.5387	3.49	-1.0464
201	3.51	-28.06	-55.00	-0.6847	-0.0025	0.9598	-0.5942	3.51	-1.1091
202	3.53	-28.20	-55.27	-0.6983	-0.0143	0.9632	-0.6119	3.53	-1.1223
203	3.54	-28.34	-55.55	-0.6983	0.0266	0.9278	-0.5914	3.54	-1.0852
204	3.56	-28.48	-55.83	-0.6847	0.1098	0.8625	-0.5381	3.56	-1.0068
205	3.58	-28.62	-56.11	-0.6578	0.2170	0.7832	-0.4612	3.58	-0.9047
206	3.60	-28.76	-56.39	-0.6181	0.3246	0.7099	-0.3730	3.60	-0.8015
207	3.61	-28.90	-56.67	-0.5663	0.4084	0.6632	-0.2862	3.61	-0.7208
208	3.63	-29.04	-56.95	-0.5035	0.4476	0.6606	-0.2123	3.63	-0.6829
209	3.65	-29.18	-57.23	-0.4310	0.4287	0.7133	-0.1589	3.65	-0.7009
210	3.67	-29.32	-57.51	-0.3500	0.3477	0.8239	-0.1293	3.67	-0.7781
211	3.68	-29.46	-57.79	-0.2622	0.2113	0.9859	-0.1214	3.68	-0.9076
212	3.70	-29.60	-58.07	-0.1693	0.0355	1.1845	-0.1289	3.70	-1.0728
213	3.72	-29.74	-58.35	-0.0732	-0.1566	1.3990	-0.1417	3.72	-1.2505
214	3.74	-29.88	-58.63	0.0244	-0.3392	1.6059	-0.1484	3.74	-1.4144
215	3.75	-30.02	-58.90	0.1216	-0.4875	1.7829	-0.1385	3.75	-1.5399
216	3.77	-30.16	-59.18	0.2163	-0.5823	1.9124	-0.1038	3.77	-1.6082
217	3.79	-30.30	-59.46	0.3069	-0.6130	1.9843	-0.0408	3.79	-1.6093
218	3.80	-30.44	-59.74	0.3914	-0.5795	1.9976	0.0492	3.80	-1.5438
219	3.82	-30.58	-60.02	0.4684	-0.4919	1.9602	0.1597	3.82	-1.4228
220	3.84	-30.72	-60.30	0.5362	-0.3686	1.8873	0.2801	3.84	-1.2657
221	3.86	-30.86	-60.58	0.5936	-0.2334	1.7990	0.3974	3.86	-1.0970
222	3.87	-31.00	-60.86	0.6395	-0.1112	1.7161	0.4982	3.87	-0.9419
223	3.89	-31.14	-61.14	0.6729	-0.0235	1.6568	0.5710	3.89	-0.8223
224	3.91	-31.28	-61.42	0.6932	0.0152	1.6334	0.6079	3.91	-0.7527
225	3.93	-31.42	-61.70	0.7000	0.0000	1.6500	0.6062	3.93	-0.7381
226	3.94	-31.56	-61.98	0.6932	-0.0639	1.7019	0.5684	3.94	-0.7734
227	3.96	-31.70	-62.26	0.6729	-0.1618	1.7766	0.5018	3.96	-0.8446
228	3.98	-31.83	-62.54	0.6395	-0.2723	1.8555	0.4177	3.98	-0.9312
229	4.00	-31.97	-62.81	0.5936	-0.3709	1.9180	0.3287	4.00	-1.0103
230	4.01	-32.11	-63.09	0.5362	-0.4346	1.9445	0.2471	4.01	-1.0606
231	4.03	-32.25	-63.37	0.4684	-0.4459	1.9204	0.1827	4.03	-1.0665
232	4.05	-32.39	-63.65	0.3914	-0.3958	1.8385	0.1411	4.05	-1.0207
233	4.07	-32.53	-63.93	0.3069	-0.2856	1.7008	0.1229	4.07	-0.9254

234	4.08	-32.67	-64.21	0.2163	-0.1270	1.5182	0.1238	4.08	-0.7922
235	4.10	-32.81	-64.49	0.1216	0.0601	1.3087	0.1353	4.10	-0.6398
236	4.12	-32.95	-64.77	0.0244	0.2507	1.0951	0.1465	4.12	-0.4909
237	4.14	-33.09	-65.05	-0.0732	0.4190	0.9006	0.1461	4.14	-0.3680
238	4.15	-33.23	-65.33	-0.1693	0.5424	0.7456	0.1246	4.15	-0.2895
239	4.17	-33.37	-65.61	-0.2622	0.6059	0.6441	0.0759	4.17	-0.2667
240	4.19	-33.51	-65.89	-0.3500	0.6039	0.6020	-0.0012	4.19	-0.3020
241	4.21	-33.65	-66.17	-0.4310	0.5415	0.6156	-0.1025	4.21	-0.3881
242	4.22	-33.79	-66.44	-0.5035	0.4333	0.6730	-0.2194	4.22	-0.5097
243	4.24	-33.93	-66.72	-0.5663	0.3009	0.7562	-0.3400	4.24	-0.6463
244	4.26	-34.07	-67.00	-0.6181	0.1693	0.8444	-0.4506	4.26	-0.7752
245	4.28	-34.21	-67.28	-0.6578	0.0620	0.9174	-0.5387	4.28	-0.8759
246	4.29	-34.35	-67.56	-0.6847	-0.0025	0.9598	-0.5942	4.29	-0.9333
247	4.31	-34.49	-67.84	-0.6983	-0.0143	0.9632	-0.6119	4.31	-0.9396
248	4.33	-34.63	-68.12	-0.6983	0.0266	0.9278	-0.5914	4.33	-0.8959
249	4.35	-34.77	-68.40	-0.6847	0.1098	0.8625	-0.5381	4.35	-0.8114
250	4.36	-34.91	-68.68	-0.6578	0.2170	0.7832	-0.4612	4.36	-0.7012
251	4.38	-35.05	-68.96	-0.6181	0.3246	0.7099	-0.3730	4.38	-0.5838
252	4.40	-35.19	-69.24	-0.5663	0.4084	0.6632	-0.2862	4.40	-0.4772
253	4.42	-35.33	-69.52	-0.5035	0.4476	0.6606	-0.2123	4.42	-0.3961
254	4.43	-35.47	-69.80	-0.4310	0.4287	0.7133	-0.1589	4.43	-0.3493
255	4.45	-35.60	-70.07	-0.3500	0.3477	0.8239	-0.1293	4.45	-0.3381
256	4.47	-35.74	-70.35	-0.2622	0.2113	0.9859	-0.1214	4.47	-0.3563
257	4.49	-35.88	-70.63	-0.1693	0.0355	1.1845	-0.1289	4.49	-0.3920
258	4.50	-36.02	-70.91	-0.0732	-0.1566	1.3990	-0.1417	4.50	-0.4294
259	4.52	-36.16	-71.19	0.0244	-0.3392	1.6059	-0.1484	4.52	-0.4521
260	4.54	-36.30	-71.47	0.1216	-0.4875	1.7829	-0.1385	4.54	-0.4460
261	4.56	-36.44	-71.75	0.2163	-0.5823	1.9124	-0.1038	4.56	-0.4017
262	4.57	-36.58	-72.03	0.3069	-0.6130	1.9843	-0.0408	4.57	-0.3165
263	4.59	-36.72	-72.31	0.3914	-0.5795	1.9976	0.0492	4.59	-0.1946
264	4.61	-36.86	-72.59	0.4684	-0.4919	1.9602	0.1597	4.61	-0.0461
265	4.63	-37.00	-72.87	0.5362	-0.3686	1.8873	0.2801	4.63	0.1145
266	4.64	-37.14	-73.15	0.5936	-0.2334	1.7990	0.3974	4.64	0.2709
267	4.66	-37.28	-73.43	0.6395	-0.1112	1.7161	0.4982	4.66	0.4077
268	4.68	-37.42	-73.71	0.6729	-0.0235	1.6568	0.5710	4.68	0.5128
269	4.69	-37.56	-73.98	0.6932	0.0152	1.6334	0.6079	4.69	0.5793
270	4.71	-37.70	-74.26	0.7000	0.0000	1.6500	0.6062	4.71	0.6062
271	4.73	-37.84	-74.54	0.6932	-0.0639	1.7019	0.5684	4.73	0.5980
272	4.75	-37.98	-74.82	0.6729	-0.1618	1.7766	0.5018	4.75	0.5635
273	4.76	-38.12	-75.10	0.6395	-0.2723	1.8555	0.4177	4.76	0.5142
274	4.78	-38.26	-75.38	0.5936	-0.3709	1.9180	0.3287	4.78	0.4617
275	4.80	-38.40	-75.66	0.5362	-0.4346	1.9445	0.2471	4.80	0.4156
276	4.82	-38.54	-75.94	0.4684	-0.4459	1.9204	0.1827	4.82	0.3824
277	4.83	-38.68	-76.22	0.3914	-0.3958	1.8385	0.1411	4.83	0.3641

278	4.85	-38.82	-76.50	0.3069	-0.2856	1.7008	0.1229	4.85	0.3584
279	4.87	-38.96	-76.78	0.2163	-0.1270	1.5182	0.1238	4.87	0.3598
280	4.89	-39.10	-77.06	0.1216	0.0601	1.3087	0.1353	4.89	0.3605
281	4.90	-39.24	-77.34	0.0244	0.2507	1.0951	0.1465	4.90	0.3528
282	4.92	-39.37	-77.61	-0.0732	0.4190	0.9006	0.1461	4.92	0.3302
283	4.94	-39.51	-77.89	-0.1693	0.5424	0.7456	0.1246	4.94	0.2891
284	4.96	-39.65	-78.17	-0.2622	0.6059	0.6441	0.0759	4.96	0.2294
285	4.97	-39.79	-78.45	-0.3500	0.6039	0.6020	-0.0012	4.97	0.1547
286	4.99	-39.93	-78.73	-0.4310	0.5415	0.6156	-0.1025	4.99	0.0712
287	5.01	-40.07	-79.01	-0.5035	0.4333	0.6730	-0.2194	5.01	-0.0131
288	5.03	-40.21	-79.29	-0.5663	0.3009	0.7562	-0.3400	5.03	-0.0897
289	5.04	-40.35	-79.57	-0.6181	0.1693	0.8444	-0.4506	5.04	-0.1512
290	5.06	-40.49	-79.85	-0.6578	0.0620	0.9174	-0.5387	5.06	-0.1924
291	5.08	-40.63	-80.13	-0.6847	-0.0025	0.9598	-0.5942	5.08	-0.2108
292	5.10	-40.77	-80.41	-0.6983	-0.0143	0.9632	-0.6119	5.10	-0.2065
293	5.11	-40.91	-80.69	-0.6983	0.0266	0.9278	-0.5914	5.11	-0.1819
294	5.13	-41.05	-80.97	-0.6847	0.1098	0.8625	-0.5381	5.13	-0.1407
295	5.15	-41.19	-81.25	-0.6578	0.2170	0.7832	-0.4612	5.15	-0.0870
296	5.17	-41.33	-81.52	-0.6181	0.3246	0.7099	-0.3730	5.17	-0.0240
297	5.18	-41.47	-81.80	-0.5663	0.4084	0.6632	-0.2862	5.18	0.0460
298	5.20	-41.61	-82.08	-0.5035	0.4476	0.6606	-0.2123	5.20	0.1227
299	5.22	-41.75	-82.36	-0.4310	0.4287	0.7133	-0.1589	5.22	0.2068
300	5.24	-41.89	-82.64	-0.3500	0.3477	0.8239	-0.1293	5.24	0.3000
301	5.25	-42.03	-82.92	-0.2622	0.2113	0.9859	-0.1214	5.25	0.4037
302	5.27	-42.17	-83.20	-0.1693	0.0355	1.1845	-0.1289	5.27	0.5184
303	5.29	-42.31	-83.48	-0.0732	-0.1566	1.3990	-0.1417	5.29	0.6432
304	5.31	-42.45	-83.76	0.0244	-0.3392	1.6059	-0.1484	5.31	0.7750
305	5.32	-42.59	-84.04	0.1216	-0.4875	1.7829	-0.1385	5.32	0.9092
306	5.34	-42.73	-84.32	0.2163	-0.5823	1.9124	-0.1038	5.34	1.0401
307	5.36	-42.87	-84.60	0.3069	-0.6130	1.9843	-0.0408	5.36	1.1616
308	5.38	-43.00	-84.88	0.3914	-0.5795	1.9976	0.0492	5.38	1.2686
309	5.39	-43.14	-85.15	0.4684	-0.4919	1.9602	0.1597	5.39	1.3577
310	5.41	-43.28	-85.43	0.5362	-0.3686	1.8873	0.2801	5.41	1.4277
311	5.43	-43.42	-85.71	0.5936	-0.2334	1.7990	0.3974	5.43	1.4801
312	5.45	-43.56	-85.99	0.6395	-0.1112	1.7161	0.4982	5.45	1.5185
313	5.46	-43.70	-86.27	0.6729	-0.0235	1.6568	0.5710	5.46	1.5475
314	5.48	-43.84	-86.55	0.6932	0.0152	1.6334	0.6079	5.48	1.5720
315	5.50	-43.98	-86.83	0.7000	0.0000	1.6500	0.6062	5.50	1.5954
316	5.52	-44.12	-87.11	0.6932	-0.0639	1.7019	0.5684	5.52	1.6191
317	5.53	-44.26	-87.39	0.6729	-0.1618	1.7766	0.5018	5.53	1.6416
318	5.55	-44.40	-87.67	0.6395	-0.2723	1.8555	0.4177	5.55	1.6584
319	5.57	-44.54	-87.95	0.5936	-0.3709	1.9180	0.3287	5.57	1.6632
320	5.59	-44.68	-88.23	0.5362	-0.4346	1.9445	0.2471	5.59	1.6484
321	5.60	-44.82	-88.51	0.4684	-0.4459	1.9204	0.1827	5.60	1.6074

322	5.62	-44.96	-88.78	0.3914	-0.3958	1.8385	0.1411	5.62	1.5356
323	5.64	-45.10	-89.06	0.3069	-0.2856	1.7008	0.1229	5.64	1.4323
324	5.65	-45.24	-89.34	0.2163	-0.1270	1.5182	0.1238	5.65	1.3010
325	5.67	-45.38	-89.62	0.1216	0.0601	1.3087	0.1353	5.67	1.1497
326	5.69	-45.52	-89.90	0.0244	0.2507	1.0951	0.1465	5.69	0.9898
327	5.71	-45.66	-90.18	-0.0732	0.4190	0.9006	0.1461	5.71	0.8349
328	5.72	-45.80	-90.46	-0.1693	0.5424	0.7456	0.1246	5.72	0.6983
329	5.74	-45.94	-90.74	-0.2622	0.6059	0.6441	0.0759	5.74	0.5912
330	5.76	-46.08	-91.02	-0.3500	0.6039	0.6020	-0.0012	5.76	0.5208
331	5.78	-46.22	-91.30	-0.4310	0.5415	0.6156	-0.1025	5.78	0.4887
332	5.79	-46.36	-91.58	-0.5035	0.4333	0.6730	-0.2194	5.79	0.4912
333	5.81	-46.50	-91.86	-0.5663	0.3009	0.7562	-0.3400	5.81	0.5195
334	5.83	-46.64	-92.14	-0.6181	0.1693	0.8444	-0.4506	5.83	0.5614
335	5.85	-46.77	-92.42	-0.6578	0.0620	0.9174	-0.5387	5.85	0.6038
336	5.86	-46.91	-92.69	-0.6847	-0.0025	0.9598	-0.5942	5.86	0.6352
337	5.88	-47.05	-92.97	-0.6983	-0.0143	0.9632	-0.6119	5.88	0.6476
338	5.90	-47.19	-93.25	-0.6983	0.0266	0.9278	-0.5914	5.90	0.6387
339	5.92	-47.33	-93.53	-0.6847	0.1098	0.8625	-0.5381	5.92	0.6124
340	5.93	-47.47	-93.81	-0.6578	0.2170	0.7832	-0.4612	5.93	0.5782
341	5.95	-47.61	-94.09	-0.6181	0.3246	0.7099	-0.3730	5.95	0.5498
342	5.97	-47.75	-94.37	-0.5663	0.4084	0.6632	-0.2862	5.97	0.5423
343	5.99	-47.89	-94.65	-0.5035	0.4476	0.6606	-0.2123	5.99	0.5697
344	6.00	-48.03	-94.93	-0.4310	0.4287	0.7133	-0.1589	6.00	0.6418
345	6.02	-48.17	-95.21	-0.3500	0.3477	0.8239	-0.1293	6.02	0.7623
346	6.04	-48.31	-95.49	-0.2622	0.2113	0.9859	-0.1214	6.04	0.9272
347	6.06	-48.45	-95.77	-0.1693	0.0355	1.1845	-0.1289	6.06	1.1252
348	6.07	-48.59	-96.05	-0.0732	-0.1566	1.3990	-0.1417	6.07	1.3390
349	6.09	-48.73	-96.32	0.0244	-0.3392	1.6059	-0.1484	6.09	1.5481
350	6.11	-48.87	-96.60	0.1216	-0.4875	1.7829	-0.1385	6.11	1.7318
351	6.13	-49.01	-96.88	0.2163	-0.5823	1.9124	-0.1038	6.13	1.8726
352	6.14	-49.15	-97.16	0.3069	-0.6130	1.9843	-0.0408	6.14	1.9593
353	6.16	-49.29	-97.44	0.3914	-0.5795	1.9976	0.0492	6.16	1.9887
354	6.18	-49.43	-97.72	0.4684	-0.4919	1.9602	0.1597	6.18	1.9661
355	6.20	-49.57	-98.00	0.5362	-0.3686	1.8873	0.2801	6.20	1.9045
356	6.21	-49.71	-98.28	0.5936	-0.2334	1.7990	0.3974	6.21	1.8223
357	6.23	-49.85	-98.56	0.6395	-0.1112	1.7161	0.4982	6.23	1.7398
358	6.25	-49.99	-98.84	0.6729	-0.0235	1.6568	0.5710	6.25	1.6757
359	6.27	-50.13	-99.12	0.6932	0.0152	1.6334	0.6079	6.27	1.6438
360	6.28	-50.27	-99.40	0.7000	0.0000	1.6500	0.6062	6.28	1.6500

kwise rather than counterclockwise.

bers (close to 1.0) provide smoothest curves.

ric with respect to the X axis. Setting number in the adjacent cell below to the negative of this value will maintain

amount you increase the number immediately above will slide any one point in the figure along a fixed ellipse or

opposite direction.

red in the plane of the chart). Set to 0 or multiples of 90 for most consistently symmetric results.

umber may also produce a symmetrical figure.

-1.9887	-0.6867	-0.6329
1.9887	0.6783	0.6344

Yplot	Zplot	Zcos
0.6062	0.0000	0.6344
0.5980	0.0735	0.6282
0.5635	0.1051	0.6098
0.5142	0.0832	0.5796
0.4617	0.0065	0.5380
0.4156	-0.1165	0.4860
0.3824	-0.2679	0.4245
0.3641	-0.4244	0.3548
0.3584	-0.5606	0.2781
0.3598	-0.6535	0.1960
0.3605	-0.6867	0.1102
0.3528	-0.6531	0.0221
0.3302	-0.5560	-0.0663
0.2891	-0.4088	-0.1535

0.2294	-0.2326	-0.2377
0.1547	-0.0528	-0.3172
0.0712	0.1053	-0.3906
-0.0131	0.2208	-0.4564
-0.0897	0.2806	-0.5133
-0.1512	0.2817	-0.5602
-0.1924	0.2313	-0.5962
-0.2108	0.1455	-0.6206
-0.2065	0.0467	-0.6329
-0.1819	-0.0410	-0.6329
-0.1407	-0.0955	-0.6206
-0.0870	-0.1012	-0.5962
-0.0240	-0.0514	-0.5602
0.0460	0.0501	-0.5133
0.1227	0.1900	-0.4564
0.2068	0.3471	-0.3906
0.3000	0.4966	-0.3172
0.4037	0.6137	-0.2377
0.5184	0.6783	-0.1535
0.6432	0.6783	-0.0663
0.7750	0.6119	0.0221
0.9092	0.4875	0.1102
1.0401	0.3228	0.1960
1.1616	0.1415	0.2781
1.2686	-0.0304	0.3548
1.3577	-0.1694	0.4245
1.4277	-0.2581	0.4860
1.4801	-0.2883	0.5380
1.5185	-0.2621	0.5796
1.5475	-0.1915	0.6098
1.5720	-0.0962	0.6282
1.5954	0.0000	0.6344
1.6191	0.0735	0.6282
1.6416	0.1051	0.6098
1.6584	0.0832	0.5796
1.6632	0.0065	0.5380
1.6484	-0.1165	0.4860
1.6074	-0.2679	0.4245
1.5356	-0.4244	0.3548
1.4323	-0.5606	0.2781
1.3010	-0.6535	0.1960
1.1497	-0.6867	0.1102
0.9898	-0.6531	0.0221
0.8349	-0.5560	-0.0663

0.6983	-0.4088	-0.1535
0.5912	-0.2326	-0.2377
0.5208	-0.0528	-0.3172
0.4887	0.1053	-0.3906
0.4912	0.2208	-0.4564
0.5195	0.2806	-0.5133
0.5614	0.2817	-0.5602
0.6038	0.2313	-0.5962
0.6352	0.1455	-0.6206
0.6476	0.0467	-0.6329
0.6387	-0.0410	-0.6329
0.6124	-0.0955	-0.6206
0.5782	-0.1012	-0.5962
0.5498	-0.0514	-0.5602
0.5423	0.0501	-0.5133
0.5697	0.1900	-0.4564
0.6418	0.3471	-0.3906
0.7623	0.4966	-0.3172
0.9272	0.6137	-0.2377
1.1252	0.6783	-0.1535
1.3390	0.6783	-0.0663
1.5481	0.6119	0.0221
1.7318	0.4875	0.1102
1.8726	0.3228	0.1960
1.9593	0.1415	0.2781
1.9887	-0.0304	0.3548
1.9661	-0.1694	0.4245
1.9045	-0.2581	0.4860
1.8223	-0.2883	0.5380
1.7398	-0.2621	0.5796
1.6757	-0.1915	0.6098
1.6438	-0.0962	0.6282
1.6500	0.0000	0.6344
1.6918	0.0735	0.6282
1.7580	0.1051	0.6098
1.8311	0.0832	0.5796
1.8904	0.0065	0.5380
1.9156	-0.1165	0.4860
1.8907	-0.2679	0.4245
1.8076	-0.4244	0.3548
1.6671	-0.5606	0.2781
1.4801	-0.6535	0.1960
1.2654	-0.6867	0.1102
1.0470	-0.6531	0.0221

0.8505	-0.5560	-0.0663
0.6984	-0.4088	-0.1535
0.6067	-0.2326	-0.2377
0.5818	-0.0528	-0.3172
0.6200	0.1053	-0.3906
0.7078	0.2208	-0.4564
0.8243	0.2806	-0.5133
0.9451	0.2817	-0.5602
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1.1091	0.1455	-0.6206
1.1223	0.0467	-0.6329
1.0852	-0.0410	-0.6329
1.0068	-0.0955	-0.6206
0.9047	-0.1012	-0.5962
0.8015	-0.0514	-0.5602
0.7208	0.0501	-0.5133
0.6829	0.1900	-0.4564
0.7009	0.3471	-0.3906
0.7781	0.4966	-0.3172
0.9076	0.6137	-0.2377
1.0728	0.6783	-0.1535
1.2505	0.6783	-0.0663
1.4144	0.6119	0.0221
1.5399	0.4875	0.1102
1.6082	0.3228	0.1960
1.6093	0.1415	0.2781
1.5438	-0.0304	0.3548
1.4228	-0.1694	0.4245
1.2657	-0.2581	0.4860
1.0970	-0.2883	0.5380
0.9419	-0.2621	0.5796
0.8223	-0.1915	0.6098
0.7527	-0.0962	0.6282
0.7381	0.0000	0.6344
0.7734	0.0735	0.6282
0.8446	0.1051	0.6098
0.9312	0.0832	0.5796
1.0103	0.0065	0.5380
1.0606	-0.1165	0.4860
1.0665	-0.2679	0.4245
1.0207	-0.4244	0.3548
0.9254	-0.5606	0.2781
0.7922	-0.6535	0.1960
0.6398	-0.6867	0.1102

0.4909	-0.6531	0.0221
0.3680	-0.5560	-0.0663
0.2895	-0.4088	-0.1535
0.2667	-0.2326	-0.2377
0.3020	-0.0528	-0.3172
0.3881	0.1053	-0.3906
0.5097	0.2208	-0.4564
0.6463	0.2806	-0.5133
0.7752	0.2817	-0.5602
0.8759	0.2313	-0.5962
0.9333	0.1455	-0.6206
0.9396	0.0467	-0.6329
0.8959	-0.0410	-0.6329
0.8114	-0.0955	-0.6206
0.7012	-0.1012	-0.5962
0.5838	-0.0514	-0.5602
0.4772	0.0501	-0.5133
0.3961	0.1900	-0.4564
0.3493	0.3471	-0.3906
0.3381	0.4966	-0.3172
0.3563	0.6137	-0.2377
0.3920	0.6783	-0.1535
0.4294	0.6783	-0.0663
0.4521	0.6119	0.0221
0.4460	0.4875	0.1102
0.4017	0.3228	0.1960
0.3165	0.1415	0.2781
0.1946	-0.0304	0.3548
0.0461	-0.1694	0.4245
-0.1145	-0.2581	0.4860
-0.2709	-0.2883	0.5380
-0.4077	-0.2621	0.5796
-0.5128	-0.1915	0.6098
-0.5793	-0.0962	0.6282
-0.6062	0.0000	0.6344
-0.5980	0.0735	0.6282
-0.5635	0.1051	0.6098
-0.5142	0.0832	0.5796
-0.4617	0.0065	0.5380
-0.4156	-0.1165	0.4860
-0.3824	-0.2679	0.4245
-0.3641	-0.4244	0.3548
-0.3584	-0.5606	0.2781
-0.3598	-0.6535	0.1960

-0.3605	-0.6867	0.1102
-0.3528	-0.6531	0.0221
-0.3302	-0.5560	-0.0663
-0.2891	-0.4088	-0.1535
-0.2294	-0.2326	-0.2377
-0.1547	-0.0528	-0.3172
-0.0712	0.1053	-0.3906
0.0131	0.2208	-0.4564
0.0897	0.2806	-0.5133
0.1512	0.2817	-0.5602
0.1924	0.2313	-0.5962
0.2108	0.1455	-0.6206
0.2065	0.0467	-0.6329
0.1819	-0.0410	-0.6329
0.1407	-0.0955	-0.6206
0.0870	-0.1012	-0.5962
0.0240	-0.0514	-0.5602
-0.0460	0.0501	-0.5133
-0.1227	0.1900	-0.4564
-0.2068	0.3471	-0.3906
-0.3000	0.4966	-0.3172
-0.4037	0.6137	-0.2377
-0.5184	0.6783	-0.1535
-0.6432	0.6783	-0.0663
-0.7750	0.6119	0.0221
-0.9092	0.4875	0.1102
-1.0401	0.3228	0.1960
-1.1616	0.1415	0.2781
-1.2686	-0.0304	0.3548
-1.3577	-0.1694	0.4245
-1.4277	-0.2581	0.4860
-1.4801	-0.2883	0.5380
-1.5185	-0.2621	0.5796
-1.5475	-0.1915	0.6098
-1.5720	-0.0962	0.6282
-1.5954	0.0000	0.6344
-1.6191	0.0735	0.6282
-1.6416	0.1051	0.6098
-1.6584	0.0832	0.5796
-1.6632	0.0065	0.5380
-1.6484	-0.1165	0.4860
-1.6074	-0.2679	0.4245
-1.5356	-0.4244	0.3548
-1.4323	-0.5606	0.2781

-1.3010	-0.6535	0.1960
-1.1497	-0.6867	0.1102
-0.9898	-0.6531	0.0221
-0.8349	-0.5560	-0.0663
-0.6983	-0.4088	-0.1535
-0.5912	-0.2326	-0.2377
-0.5208	-0.0528	-0.3172
-0.4887	0.1053	-0.3906
-0.4912	0.2208	-0.4564
-0.5195	0.2806	-0.5133
-0.5614	0.2817	-0.5602
-0.6038	0.2313	-0.5962
-0.6352	0.1455	-0.6206
-0.6476	0.0467	-0.6329
-0.6387	-0.0410	-0.6329
-0.6124	-0.0955	-0.6206
-0.5782	-0.1012	-0.5962
-0.5498	-0.0514	-0.5602
-0.5423	0.0501	-0.5133
-0.5697	0.1900	-0.4564
-0.6418	0.3471	-0.3906
-0.7623	0.4966	-0.3172
-0.9272	0.6137	-0.2377
-1.1252	0.6783	-0.1535
-1.3390	0.6783	-0.0663
-1.5481	0.6119	0.0221
-1.7318	0.4875	0.1102
-1.8726	0.3228	0.1960
-1.9593	0.1415	0.2781
-1.9887	-0.0304	0.3548
-1.9661	-0.1694	0.4245
-1.9045	-0.2581	0.4860
-1.8223	-0.2883	0.5380
-1.7398	-0.2621	0.5796
-1.6757	-0.1915	0.6098
-1.6438	-0.0962	0.6282
-1.6500	0.0000	0.6344
-1.6918	0.0735	0.6282
-1.7580	0.1051	0.6098
-1.8311	0.0832	0.5796
-1.8904	0.0065	0.5380
-1.9156	-0.1165	0.4860
-1.8907	-0.2679	0.4245
-1.8076	-0.4244	0.3548

-1.6671	-0.5606	0.2781
-1.4801	-0.6535	0.1960
-1.2654	-0.6867	0.1102
-1.0470	-0.6531	0.0221
-0.8505	-0.5560	-0.0663
-0.6984	-0.4088	-0.1535
-0.6067	-0.2326	-0.2377
-0.5818	-0.0528	-0.3172
-0.6200	0.1053	-0.3906
-0.7078	0.2208	-0.4564
-0.8243	0.2806	-0.5133
-0.9451	0.2817	-0.5602
-1.0464	0.2313	-0.5962
-1.1091	0.1455	-0.6206
-1.1223	0.0467	-0.6329
-1.0852	-0.0410	-0.6329
-1.0068	-0.0955	-0.6206
-0.9047	-0.1012	-0.5962
-0.8015	-0.0514	-0.5602
-0.7208	0.0501	-0.5133
-0.6829	0.1900	-0.4564
-0.7009	0.3471	-0.3906
-0.7781	0.4966	-0.3172
-0.9076	0.6137	-0.2377
-1.0728	0.6783	-0.1535
-1.2505	0.6783	-0.0663
-1.4144	0.6119	0.0221
-1.5399	0.4875	0.1102
-1.6082	0.3228	0.1960
-1.6093	0.1415	0.2781
-1.5438	-0.0304	0.3548
-1.4228	-0.1694	0.4245
-1.2657	-0.2581	0.4860
-1.0970	-0.2883	0.5380
-0.9419	-0.2621	0.5796
-0.8223	-0.1915	0.6098
-0.7527	-0.0962	0.6282
-0.7381	0.0000	0.6344
-0.7734	0.0735	0.6282
-0.8446	0.1051	0.6098
-0.9312	0.0832	0.5796
-1.0103	0.0065	0.5380
-1.0606	-0.1165	0.4860
-1.0665	-0.2679	0.4245

-1.0207	-0.4244	0.3548
-0.9254	-0.5606	0.2781
-0.7922	-0.6535	0.1960
-0.6398	-0.6867	0.1102
-0.4909	-0.6531	0.0221
-0.3680	-0.5560	-0.0663
-0.2895	-0.4088	-0.1535
-0.2667	-0.2326	-0.2377
-0.3020	-0.0528	-0.3172
-0.3881	0.1053	-0.3906
-0.5097	0.2208	-0.4564
-0.6463	0.2806	-0.5133
-0.7752	0.2817	-0.5602
-0.8759	0.2313	-0.5962
-0.9333	0.1455	-0.6206
-0.9396	0.0467	-0.6329
-0.8959	-0.0410	-0.6329
-0.8114	-0.0955	-0.6206
-0.7012	-0.1012	-0.5962
-0.5838	-0.0514	-0.5602
-0.4772	0.0501	-0.5133
-0.3961	0.1900	-0.4564
-0.3493	0.3471	-0.3906
-0.3381	0.4966	-0.3172
-0.3563	0.6137	-0.2377
-0.3920	0.6783	-0.1535
-0.4294	0.6783	-0.0663
-0.4521	0.6119	0.0221
-0.4460	0.4875	0.1102
-0.4017	0.3228	0.1960
-0.3165	0.1415	0.2781
-0.1946	-0.0304	0.3548
-0.0461	-0.1694	0.4245
0.1145	-0.2581	0.4860
0.2709	-0.2883	0.5380
0.4077	-0.2621	0.5796
0.5128	-0.1915	0.6098
0.5793	-0.0962	0.6282
0.6062	0.0000	0.6344

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 symmetry in angular figures.

line.)
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