

Table 1: Part Types.

Part type	Parts per sheet	Part Area (cm ²)	Sheet Cost (\$)
11	5	58	4.19
12	10	484	29.57
13	1	2645	14.55
14	1	826	6.05
15	1	168	2.52
16	1	219	3.07
21	2	2845	40.20
22	1	2613	19.27
23	1	297	4.74
24	1	581	9.29
25	2	258	6.82

Table 2: Problem Parameters.

Parameter	Set A	Set B	Set C	Set D	Set E	Set F
Cost of unsheared sheet	68.77	343.85	687.70	68.77	343.85	687.70
Cost to load unsheared sheet	1.89	1.89	1.89	1.89	1.89	1.89
Cost to setup nest	112.50	112.50	112.50	112.50	112.50	112.50
Cost to load sheared sheet	1.26	1.26	1.26	1.26	1.26	1.26
Cost to setup order	45.00	45.00	45.00	45.00	45.00	45.00
Number of orders	10	10	10	30	30	30
Minimum parts per order	15	15	15	5	5	5
Maximum parts per order	75	75	75	25	25	25

Table 3: Heuristic Results.

Problem Set	Nest Nothing	Nest Everything	Simple
A	3.39	1.00	1.00
B	1.12	1.50	1.02
C	1.00	2.66	1.00
D	3.94	1.00	1.00
E	1.23	1.43	1.02
F	1.05	2.41	1.07

Table 4: Mean Relative Total Cost versus Batch Size.

Batch Size	Set A	Set B	Set C	Set D	Set E	Set F
2	1.00	1.00	1.00	1.00	1.00	1.00
4	0.81	0.96	1.00	0.66	0.98	1.02
8	0.71	0.90	1.00	0.51	0.85	1.10
16	0.67	0.86	1.01	0.43	0.78	1.05
32	0.65	0.84	1.01	0.39	0.73	1.01
64	0.63	0.84	1.01	0.37	0.71	0.97
128	0.63	0.83	1.00	0.36	0.70	0.95
256	0.62	0.83	0.99	0.35	0.69	0.94

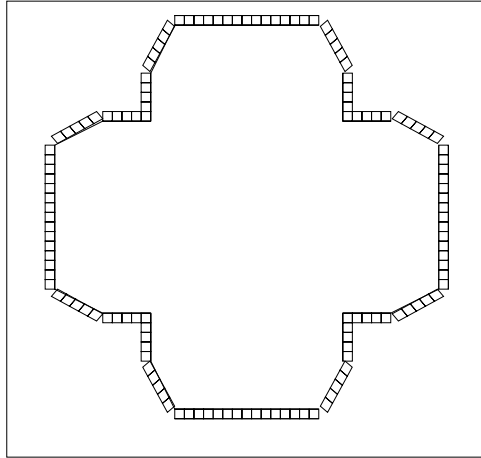
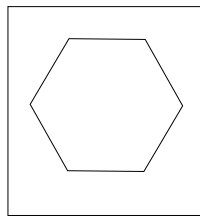
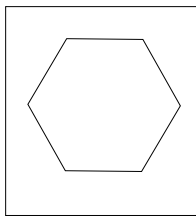
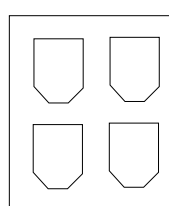


Figure 1: A blank on a sheared sheet

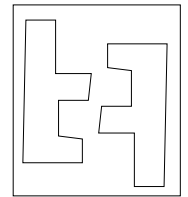
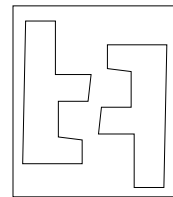
Order 1



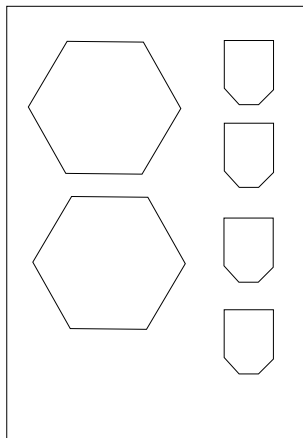
Order 2



Order 3



Nest Orders 1 and 2



Nest Orders 1, 2, and 3

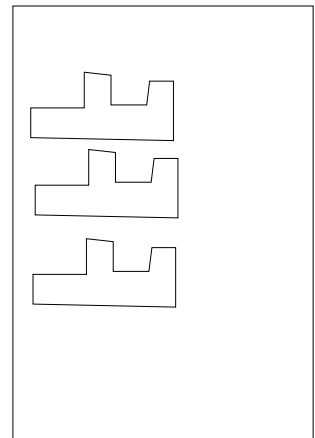
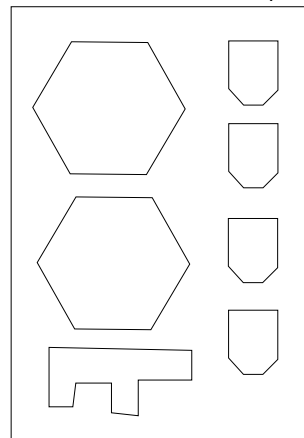


Figure 2: Three orders and two possible nests.