

CANDIDATE SOLUTIONS TO PARTITION PROBLEMS: A SUMMARY FOR LARGE  $N$

Latest update available at [http://users.aber.ac.uk/sxc/two\\_d\\_clusters.html](http://users.aber.ac.uk/sxc/two_d_clusters.html)

The conjectured least perimeter partition is given for bubbles of area  $3\sqrt{3}/2$ .

See <http://arxiv.org/abs/1206.3858> for further details.

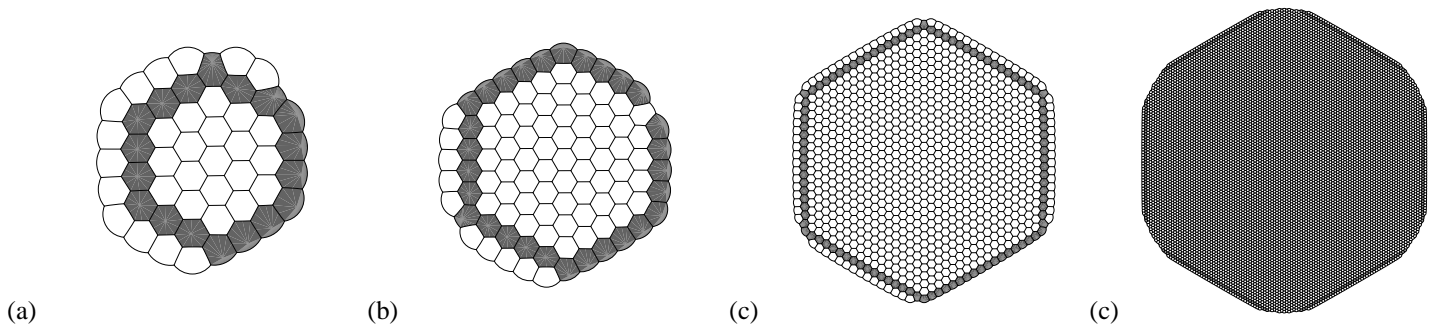


Figure 1: (a)  $N = 50$ ,  $P = 171.834$ . (b)  $N = 100$ ,  $P = 330.799$ . (c)  $N = 1000$ ,  $P = 3097.880$ . (d)  $N = 10,000$ ,  $P = 30310.532$ .

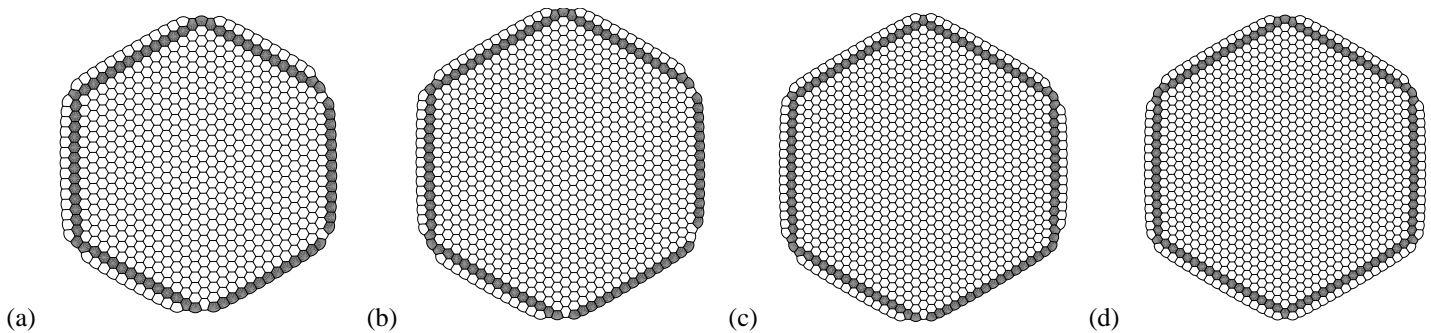


Figure 2: (a)  $N = 677$ ,  $P = 2111.481$  (b)  $N = 868$ ,  $P = 2695.173$ . (c)  $N = 995$ ,  $P = 3082.633$ . (d)  $N = 1015$ ,  $P = 3143.569$ .

$N$	$P$	$N$	$P$	$N$	$P$
721	2246.135	2791	8536.852	6211	18877.741
817	2539.476	2977	9100.258	6487	19711.151
919	2850.861	3169	9681.654	6769	20562.559
1027	3180.205	3367	10281.057	7057	21431.968
1141	3527.593	3571	10898.457	7351	22319.377
1261	3892.938	3781	11533.862	7651	23224.802
1387	4276.331	3997	12187.279	7957	24148.211
1519	4677.693	4219	12858.699	8269	25089.621
1657	5097.087	4447	13548.102	8587	26049.047
1801	5534.451	4681	14255.472	8911	27026.456
1951	5989.852	4921	14980.843	9241	28021.866
2107	6463.253	5167	15724.213	9577	29035.277
2269	6954.654	5419	16485.584	9919	30066.610
2437	7464.055	5677	17264.958		
2611	7991.453	5941	18062.332	170647	513224.982

Table 1: Conjectured minimal perimeter for  $N$  a hexagonal number between 721 and 9919, and  $N = 170, 647$ .