

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(3, 2)	$5 + 11z + 6z^2 + z^3$ $1 + 2z + 3z^2 + z^3$	$-0.33764 + 0.56228i$	0.156983968194460
2	(3, 2)	$1 + 5z + 4z^2 + z^3$ $5 + 8z + 5z^2 + z^3$	$-1.12256 + 0.74486i$	0.157117893796125
3	(3, 2)	$1 + z + 4z^2 + 4z^3 + z^4$ $7 + 23z + 22z^2 + 8z^3 + z^4$	$0.00755 + 0.51312i$	0.327149654332475
4	(3, 2)	$1 + 8z + 14z^2 + 13z^3 + 6z^4 + z^5$ $5 + 32z + 49z^2 + 31z^3 + 9z^4 + z^5$	$-0.66222 + 0.89978i$	0.515836186082985
5	(3, 2)	$1 + 11z + 27z^2 + 23z^3 + 8z^4 + z^5$ $5 + 11z + 18z^2 + 17z^3 + 7z^4 + z^5$	$-0.18484 + 0.71242i$	0.517468087113118
6	(3, 2)	$1 + 10z + 13z^2 + 6z^3 + z^4$ $7 + 14z + 13z^2 + 6z^3 + z^4$	$-0.79289 + 0.97832i$	0.686008759135839
7	(3, 2)	$4 + 19z + 21z^2 + 8z^3 + z^4$ $1 - z + 3z^2 + 4z^3 + z^4$	$0.21021 + 0.41375i$	0.463893546593001
8	(3, 2)	$1 + 11z + 13z^2 + 6z^3 + z^4$ $4 + 13z + 13z^2 + 6z^3 + z^4$	$-1.29342 + 1.00144i$	0.463972819748495
9	(3, 2)	$1 + 16z + 38z^2 + 29z^3 + 9z^4 + z^5$ $2 + 4z + 7z^2 + 11z^3 + 6z^4 + z^5$	$0.02268 + 0.62320i$	0.646287064285721
10	(3, 2)	$1 + 7z + 11z^2 + 12z^3 + 6z^4 + z^5$ $2 + 22z + 43z^2 + 30z^3 + 9z^4 + z^5$	$-0.37053 + 0.84016i$	0.647079332036773
11	(3, 2)	$11 + 16z + 7z^2 + z^3$ $1 + z + 2z^2 + z^3$	$-0.12256 + 0.74486i$	0.785999075910039
12	(3, 2)	$13 + 31z + 24z^2 + 8z^3 + z^4$ $1 + 5z + 6z^2 + 4z^3 + z^4$	$-0.75187 + 1.03398i$	1.145197409428369
13	(3, 2)	$5 + 32z + 55z^2 + 36z^3 + 10z^4 + z^5$ $1 - z - z^2 + 6z^3 + 5z^4 + z^5$	$0.34815 + 0.31570i$	0.567165208527598
14	(3, 2)	$5 + 26z + 38z^2 + 25z^3 + 8z^4 + z^5$ $1 + 14z + 25z^2 + 19z^3 + 7z^4 + z^5$	$-1.35087 + 1.05848i$	0.567285975023829
15	(3, 2)	$1 + 10z + 23z^2 + 19z^3 + 7z^4 + z^5$ $11 + 34z + 40z^2 + 25z^3 + 8z^4 + z^5$	$-1.02127 + 1.12212i$	1.894601048848805

Table 1: Q.Table 3.1

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(3, 2)	$\frac{3 + 5z + 4z^2 + z^3}{3 + 8z + 5z^2 + z^3}$	$-0.76721 + 0.79255i$	0.263008715157447
2	(3, 2)	$\frac{3 + 6z + 8z^2 + 5z^3 + z^4}{3 + 15z + 17z^2 + 7z^3 + z^4}$	$-0.34861 + 0.75874i$	0.432564598947726
3	(3, 2)	$\frac{2 + 2z + 2z^2}{1 + (2 + z)^2}$	$-1.00000 + 1.00000i$	0.610519526694357
4	(3, 2)	$\frac{5 + 17z + 23z^2 + 18z^3 + 7z^4 + z^5}{1 + 14z + 31z^2 + 24z^3 + 8z^4 + z^5}$	$-0.60186 + 0.93867i$	0.711117203273613
5	(3, 2)	$\frac{1 + 2z + 3z^2 + 7z^3 + 5z^4 + z^5}{5 + 38z + 60z^2 + 37z^3 + 10z^4 + z^5}$	$0.11005 + 0.57190i$	0.712543560125077
6	(3, 2)	$\frac{3 + 23z + 37z^2 + 25z^3 + 8z^4 + z^5}{3 + 17z + 26z^2 + 19z^3 + 7z^4 + z^5}$	$-1.86240 + 1.07589i$	0.865996064707863
7	(3, 2)	$\frac{2 + 2z + 3z^2 + z^3}{-4 - z + (2 + z)^3}$	$-0.23931 + 0.85787i$	1.255231836333305
8	(3, 2)	$\frac{2 + 6z + 4z^2 + z^3}{7 + 9z + 5z^2 + z^3}$	$-1.22816 + 1.11514i$	1.059048949359549
9	(3, 2)	$\frac{4 + 5z + 4z^2 + z^3}{2 + 8z + 5z^2 + z^3}$	$-0.65219 + 1.02885i$	1.498880413762323
10	(3, 2)	$\frac{3 + 2z + 6z^2 + 11z^3 + 6z^4 + z^5}{3 + 20z + 39z^2 + 29z^3 + 9z^4 + z^5}$	$0.17229 + 0.58559i$	1.181360578218381
11	(3, 2)	$\frac{3 + 8z + 11z^2 + 12z^3 + 6z^4 + z^5}{3 + 23z + 43z^2 + 30z^3 + 9z^4 + z^5}$	$-0.13972 + 0.82586i$	1.750517907450094

Table 2: Q.Table 5.1

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(3, 2)	$\frac{1 - 2z + 3z^3 + z^4}{7 + 29z + 27z^2 + 9z^3 + z^4}$	$0.46746 + 0.27759i$	1.019779352592997
2	(3, 2)	$\frac{1 + 7z + 12z^2 + 6z^3 + z^4}{7 + 11z + 12z^2 + 6z^3 + z^4}$	$-0.41847 + 0.93916i$	1.018809897806248
3	(3, 2)	$\frac{3 + z + (2 + z)^3}{1 + 4z + 3z^2 + z^3}$	$-1.34116 + 1.16154i$	1.319305550522633
4	(3, 2)	$\frac{1 + 2z^2 + z^3}{8 + 15z + 7z^2 + z^3}$	$0.10278 + 0.66546i$	1.709353487322167
5	(3, 2)	$\frac{1 - z + z^2 + 3z^3 + z^4}{13 + 34z + 28z^2 + 9z^3 + z^4}$	$0.33909 + 0.44663i$	1.472909330019834

Table 3: Q.Table 5.4

$n$	$(p, q)$	$\gamma$	covolume
1	(3, 2)	$-0.50000 + 0.86603i$	0.676627737605571
2	(3, 2)	$0.36778 + 0.23154i$	0.192584612983471
3	(3, 2)	$-0.25460 + 0.74953i$	0.263536300108507
4	(3, 2)	$-1.50000 + 0.99849i$	Free
5	(3, 2)	$-1.50000 + 1.07899i$	Free
6	(3, 2)	$-1.50000 + 1.16963i$	Free
7	(3, 2)	$-1.50000 + 1.21740i$	Free
8	(3, 2)	$0.47582 + 0.16460i$	0.220219588908876
9	(3, 2)	$0.23676 + 0.31257i$	0.154318773285096
10	(3, 2)	$-0.07087 + 0.66435i$	0.297303264846344
11	(3, 2)	$-1.08698 + 0.98787i$	0.264308750156759

Table 4: Q.Table 5.5

$n$	$(p, q)$	$\gamma$	covolume
1	(3, 2)	$0.02764 + 0.73661i$	2.606687956763813
2	(3, 2)	$-0.33909 + 0.92881i$	1.786256005477690
3	(3, 2)	$-1.40631 + 1.19616i$	1.473780096936488
4	(3, 2)	$-0.56154 + 1.01758i$	1.886983797195308
5	(3, 2)	$-0.42847 + 1.00664i$	2.457416519588215
6	(3, 2)	$-0.87763 + 1.11400i$	3.438382428925763
7	(3, 2)	$-1.50000 + 1.30625i$	Free
8	(3, 2)	$0.16169 + 0.63671i$	failure
9	(3, 2)	$-0.02256 + 0.77896i$	2.904334127793920
10	(3, 2)	$-0.51152 + 1.00187i$	0.770435534681183
11	(3, 2)	$-1.50000 + 1.27647i$	Free

Table 5: Q.Table 5.6

$n$	$(p, q)$	$\gamma$	covolume
1	(3, 2)	$0.27341 + 0.56382i$	failure
2	(3, 2)	$-1.06356 + 1.16438i$	failure
3	(3, 2)	$-0.82239 + 1.11253i$	failure
4	(3, 2)	$0.68152 + 0.14729i$	failure
5	(3, 2)	$0.57186 + 0.25235i$	failure
6	(3, 2)	$0.61068 + 0.18781i$	1.959655953058214
7	(3, 2)	$0.53101 + 0.27349i$	failure
8	(3, 2)	$-0.17611 + 0.89163i$	failure
9	(3, 2)	$-1.23137 + 1.18118i$	failure
10	(3, 2)	$-0.94344 + 1.14115i$	failure
11	(3, 2)	$0.59727 + 0.22323i$	failure
12	(3, 2)	$0.47623 + 0.33589i$	failure
13	(3, 2)	$0.29516 + 0.53913i$	failure
14	(3, 2)	$0.32580 + 0.51138i$	failure

Table 6: Q.Table 5.7

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(4, 2)	$\frac{1+z+z^2}{3+3z+z^2}$	$-0.50000 + 0.86603i$	0.253384811296644
2	(4, 2)	$\frac{1+z^2+z^3}{-3-8z-5z^2-z^3}$	$0.23279 + 0.79255i$	0.595004149184967
3	(4, 2)	$\frac{3+4z+3z^2+z^3}{-1-4z-3z^2-z^3}$	$-0.65884 + 1.16154i$	0.593932061794999
4	(4, 2)	$\frac{1-z+z^3}{-5-11z-6z^2-z^3}$	$0.66236 + 0.56228i$	0.824071575741213
5	(4, 2)	$\frac{1-z+z^2}{7+5z+2z^2}$	$0.50000 + 0.86603i$	1.524595659895754
6	(4, 2)	$\frac{1+2z+z^2+z^3}{-7-10z-5z^2-z^3}$	$-0.21508 + 1.30714i$	2.122090588879277
7	(4, 2)	$\frac{3-z-3z^2+z^3+z^4}{1+9z+15z^2+7z^3+z^4}$	$1.06115 + 0.38830i$	1.542632159257580
8	(4, 2)	$\frac{1+3z+2z^2+2z^3+z^4}{3+13z+14z^2+6z^3+z^4}$	$0.03640 + 1.21238i$	1.540788174525126
9	(4, 2)	$\frac{1+z-z^2+z^3+z^4}{3+15z+17z^2+7z^3+z^4}$	$0.65139 + 0.75874i$	1.624021910597929
10	(4, 2)	$\frac{3+z-4z^2+z^4}{1+15z+20z^2+8z^3+z^4}$	$1.36778 + 0.23154i$	2.900382924576496
11	(4, 2)	$\frac{1+5z+5z^2+3z^3+z^4}{3+11z+11z^2+5z^3+z^4}$	$-0.57943 + 1.45743i$	2.889771482503296

Table 7: Q.Table 5.8

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(4, 2)	$\frac{2+2z+2z^2+z^3}{-2-6z-4z^2-z^3}$	$-0.22816 + 1.11514i$	0.793839731308609
2	(4, 2)	$\frac{1+2z+z^2+2z^3+z^4}{1+10z+13z^2+6z^3+z^4}$	$0.20711 + 0.97832i$	1.028760806843382
3	(4, 2)	$\frac{2+z+z^2}{4+3z+z^2}$	$-0.50000 + 1.32288i$	1.332406780851792
4	(4, 2)	$\frac{2+z+z^2}{-2-8z-5z^2-z^3}$	$0.34781 + 1.02885i$	2.232710498631728
5	(4, 2)	$\frac{4+5z+3z^2+z^3}{-2-5z-3z^2-z^3}$	$-0.77330 + 1.46771i$	1.927861496441281
6	(4, 2)	$\frac{3+2z+2z^2+z^3}{-1-6z-4z^2-z^3}$	$-0.09473 + 1.28374i$	2.597157107493283
7	(4, 2)	$\frac{2-2z+z^3}{-2-10z-6z^2-z^3}$	$0.88465 + 0.58974i$	1.985525637343016

Table 8: Q.Table 5.9

$n$	$(p, q)$	$\gamma$	covolume
1	(4, 2)	$-1.00000 + 1.41421i$	Free
2	(4, 2)	$-1.00000 + 1.55377i$	Free
3	(4, 2)	$1.00755 + 0.51312i$	3.667339431536167
4	(4, 2)	$0.17660 + 1.20282i$	3.308662886740566
5	(4, 2)	$0.81516 + 0.71242i$	failure
6	(4, 2)	$0.58153 + 0.93916i$	failure
7	(4, 2)	$-0.30368 + 1.43595i$	failure
8	(4, 2)	$-0.82835 + 1.57669i$	failure
9	(4, 2)	$-1.00000 + 1.65289i$	Free
10	(4, 2)	$-1.00000 + 1.73205i$	Free
11	(4, 2)	$-0.78492 + 1.30714i$	0.824868942429759

Table 9: Q.Table 5.11

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(6, 2)	$\frac{1+x^2}{2+2x+x^2}$	$0.00000 + 1.00000i$	0.610643729451522
2	(6, 2)	$\frac{1-x^2+x^3}{-1-5x-4x^2-x^3}$	$0.87744 + 0.74486i$	1.022004856907895
3	(6, 2)	$\frac{1+2x+x^2+x^3}{-1-3x-2x^2-x^3}$	$-0.21508 + 1.30714i$	1.019497428415326
4	(6, 2)	$\frac{2-2x^2+x^3}{-1-7x-5x^2-x^3}$	$1.41964 + 0.60629i$	1.853421079184026
5	(6, 2)	$\frac{1+x-x^2+x^3}{-2-6x-4x^2-x^3}$	$0.77184 + 1.11514i$	1.851412053612527
6	(6, 2)	$\frac{1+x-2x^2+x^3}{-3-8x-5x^2-x^3}$	$1.23279 + 0.79255i$	2.110523747092161
7	(6, 2)	$\frac{1+2x-3x^2+x^3}{-5-11x-6x^2-x^3}$	$1.66236 + 0.56228i$	4.402234623856832

Table 10: Q.Table 5.12

$n$	$(p, q)$	$\gamma$ -polynomial	$\gamma$	covolume
1	(6, 2)	$\frac{1+x+x^3}{-1-4x-3x^2-x^3}$	$0.34116 + 1.16154i$	1.320702203534967
2	(6, 2)	$\frac{2+x^2}{3+2x+x^2}$	$0.00000 + 1.41421i$	2.007682006682812
3	(6, 2)	$\frac{2-2x+x^2}{5+4x+x^2}$	$1.00000 + 1.00000i$	3.053218647256478
4	(6, 2)	$\frac{1+3x+x^2+x^3}{-2-4x-2x^2-x^3}$	$-0.31945 + 1.63317i$	2.646859749260644
5	(6, 2)	$\frac{2-x+x^2}{4+3x+x^2}$	$0.50000 + 1.32288i$	3.549442254748726

Table 11: Q.Table 5.13