Original Gem Faceting Designs
and Certificate of Design Program
by John Bailey
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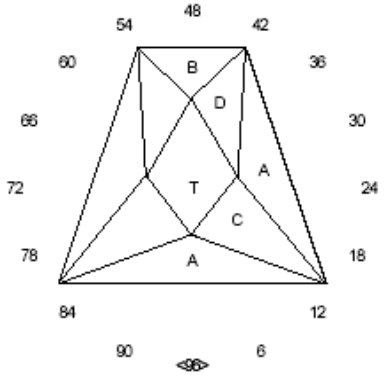
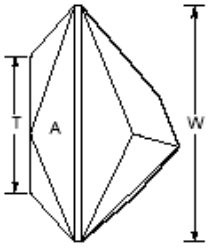
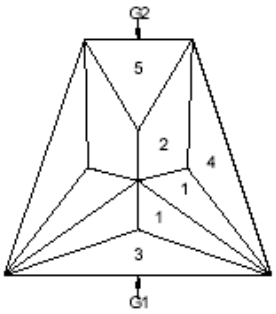
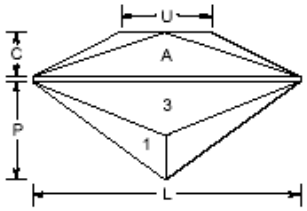








Sorrel Custom

by John Bailey, 2005
Angles for R.I. = 1.720
19 + 4 girdles = 23 facets
1-fold, mirror-image symmetry
96 index
L/W = 1.132 T/W = 0.581 U/W = 0.383
P/W = 0.414 C/W = 0.187
(G1 G2)/W = 1.000
Vol./W³ = 0.219

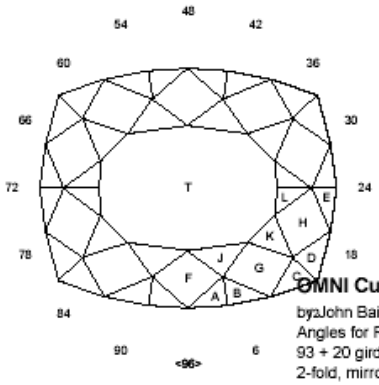
PAVILION

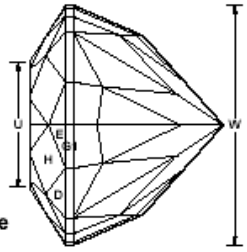
1	41.00°	02-27-69-94	CTP
2	41.60°	31-65	Meet culet
G1	90.00°	96-29-67	Calibrate length, corners: same mast height
3	50.00°	96-29-67	Meet 1, G1 and 2, G1
G2	90.00°	48	Even girdle
5	41.00°	48	Meet 2, G1, G2

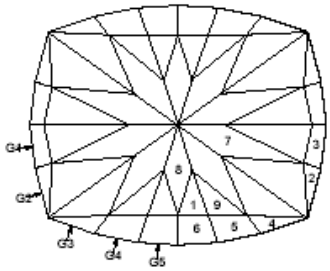
CROWN

A	42.00°	96-29-67	Set girdle thickness
B	41.60°	48	Even girdle
C	18.00°	14-82	Meet A, Girdle
D	31.80°	32-64	Meet A, B, Girdle
T	0.00°	Table	Meet A, C; A, C, D, and B, D.

E:\Dvue2\Sorrel.gem

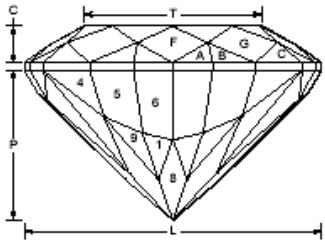


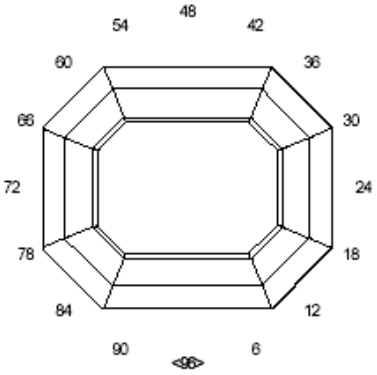


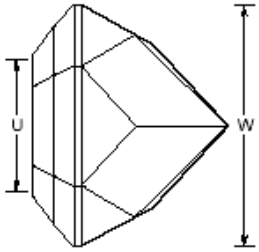


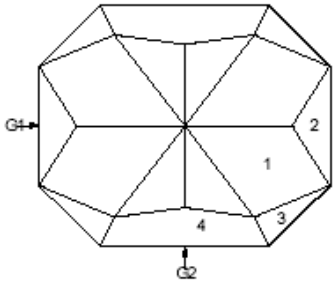
OMNI Cushion One

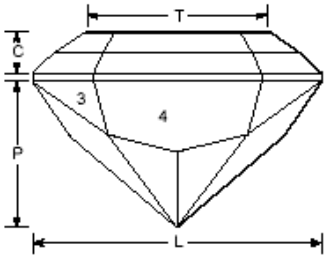
by John Bailey, 2005
Angles for R.I. = 1.540
93 + 20 girdles = 113 facets
2-fold, mirror-image symmetry
96 index
L/W = 1.240 T/W = 0.744 U/W = 0.521
P/W = 0.626 C/W = 0.152
Vol./W³ = 0.405











ECED Fast Bright Emerald 1.20

by John Bailey, 2006
Angles for R.I. = 1.540
41 + 8 girdles = 49 facets
2-fold, mirror-image symmetry
96 index
L/W = 1.200 T/W = 0.750 U/W = 0.550
P/W = 0.606 C/W = 0.173
Vol./W³ = 0.418

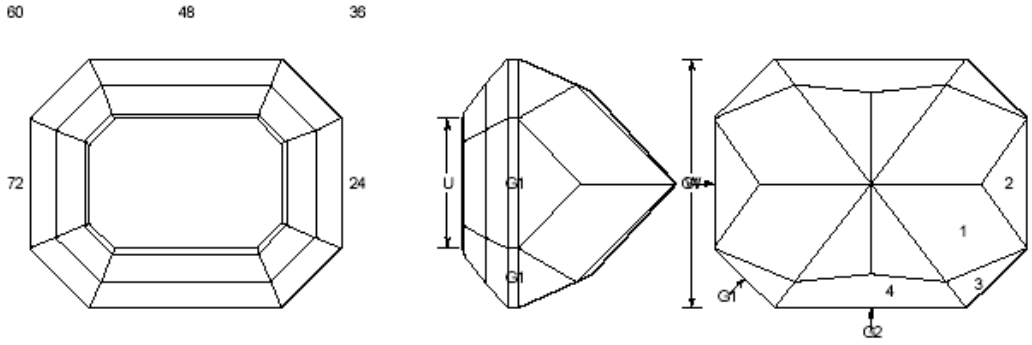
PAVILION

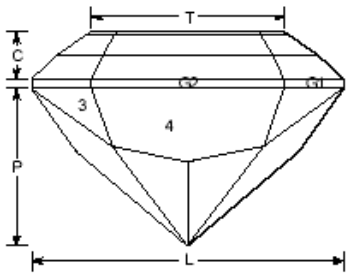
G1	90.00°	12-24-36-60-72-84	Set length (calibrate) ECED
G2	90.00°	96-48	Set width (calibrate)
4	61.10°	96-48	Meet 1, 3
2	55.00°	24-72	Meet 1, Girdle
1	43.00°	02-18-30-46-50-66-78-94	CTP
3	60.00°	12-36-60-84	Meet 1, 2, Girdle

CROWN

	42.00°	96-48
	42.00°	12-24-36-60-72-84
	36.00°	96-48
	36.00°	12-24-36-60-72-84
	20.00°	96-48
	20.00°	12-24-36-60-72-84
	0.00°	Table

COS Brightness = 53.4
E:\Dvue2\MyGems\FBE120.gem





ECED Fast Bright Emerald 1.25

by John Bailey, 2006
Angles for R.I. = 1.540
41 + 8 girdles = 49 facets
2-fold, mirror-image symmetry
96 index
L/W = 1.250 T/W = 0.770 U/W = 0.520
P/W = 0.631 C/W = 0.185
Vol./W³ = 0.471

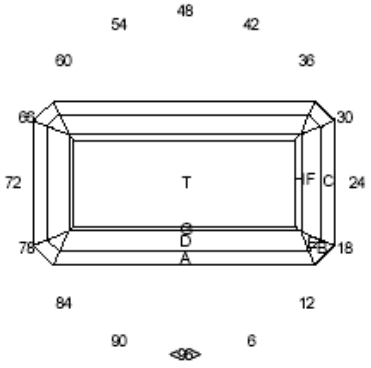
PAVILION

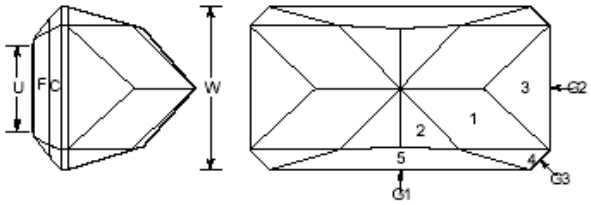
G1	90.00°	12-24-36-60-72-84	Set length (calibrate) ECED
G2	90.00°	96-48	Set width (calibrate)
1	43.00°	02-18-30-46-50-66-78-94	CTP
2	54.00°	24-72	Meet 1, Girdle
3	60.00°	12-36-60-84	Meet 1, 2, Girdle
4	65.30°	96-48	Meet 1, 3

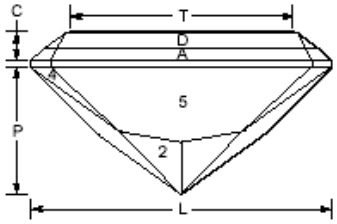
CROWN

	42.00°	96-48
	42.00°	12-24-36-60-72-84
	36.00°	96-48
	36.00°	12-24-36-60-72-84
	20.00°	96-48
	20.00°	12-24-36-60-72-84
	0.00°	Table

COS Brightness = 54
E:\Dvue2\MyGems\FBE125.gem







Fast Bright Emerald

by John Bailey, 2005
Angles for R.I. = 1.720
37 + 8 girdles = 45 facets
2-fold, mirror-image symmetry
96 index
L/W = 1.831 T/W = 1.352 U/W = 0.521
P/W = 0.774 C/W = 0.179
Vol./W³ = 0.872

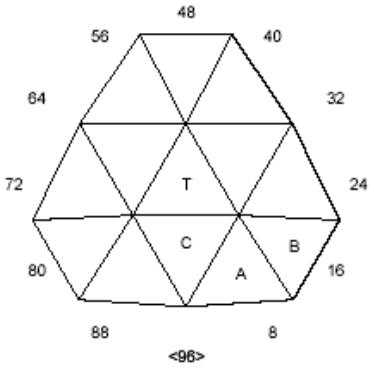
PAVILION

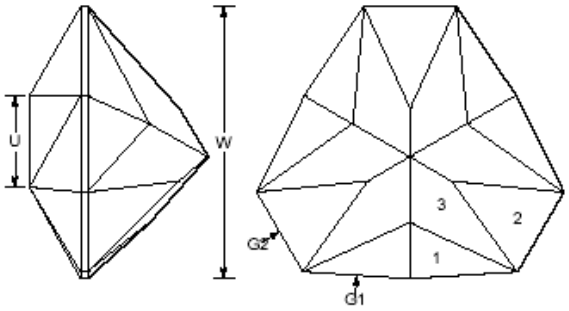
1	38.00°	18-30-66-78	CTP
2	42.00°	02-46-50-94	Meet culet
G2	90.00°	24-72	Fix length
G1	90.00°	96-48	Fix width
G3	90.00°	12-36-60-84	ECED End
3	45.00°	24-72	Meet G2, G3
4	45.60°	12-36-60-84	Meet 1, 3, G2, G3
5	72.88°	96-48	Meet4, G1, G3 and 1, 2, 4

CROWN

A	43.00°	96-48	Set girdle thickness
B	43.00°	12-24-36-60-72-84	Even girdle
D	36.00°	96-48	
E	36.00°	12-24-36-60-72-84	
G	20.00°	96-48	
H	20.00°	24-72	
T	0.00°	Table	

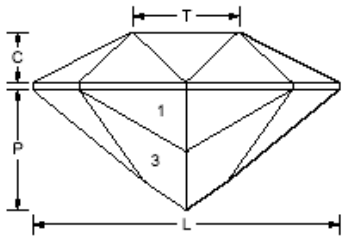
Easy to modify for various L/W





Morgan's Mirth

by John Bailey, 2005
Angles for R.I. = 1.760
28 + 9 girdles = 37 facets
3-fold, mirror-image symmetry
96 index
L/W = 1.125 T/W = 0.388 U/W = 0.336
P/W = 0.442 C/W = 0.186
Vol./W³ = 0.219



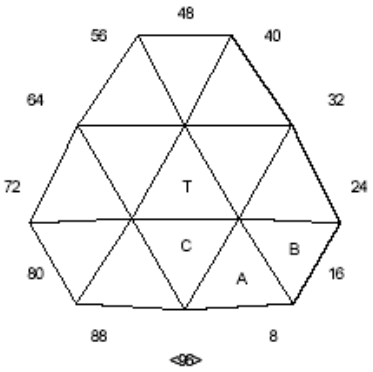
PAVILION

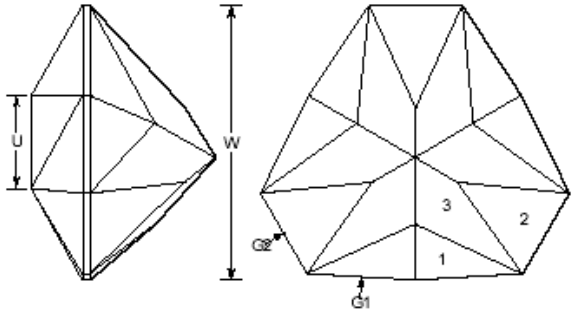
1	48.00°	01-31-33-63-65-95	CTP
2	42.00°	16-48-80	Meet culet (CAM)
G1	90.00°	01-31-33-63-65-95	Girdle
G2	90.00°	16-48-80	Even girdle
3	42.00°	03-29-35-61-67-93	Meet 1, 2, Girdle

CROWN

A	30.00°	01-31-33-63-65-95	Establish girdle thickness
B	29.60°	16-48-80	Meet A, Girdle
T	0.00°	Table	Meet A, B, C
C	29.00°	96-32-64	Meet A, Girdle

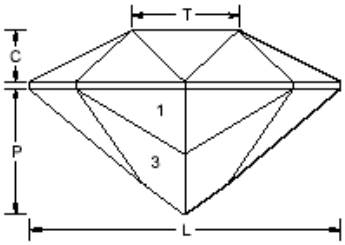
2005 Member's Choice Design Award
COS Brightness = 49.1
E:\Dvue2\MyGems\MsMirth.gem





Morgan's Mirth

by John Bailey, 2005
Angles for R.I. = 1.540
28 + 9 girdles = 37 facets
3-fold, mirror-image symmetry
96 index
L/W = 1.125 T/W = 0.388 U/W = 0.336
P/W = 0.458 C/W = 0.186
Vol./W^3 = 0.223



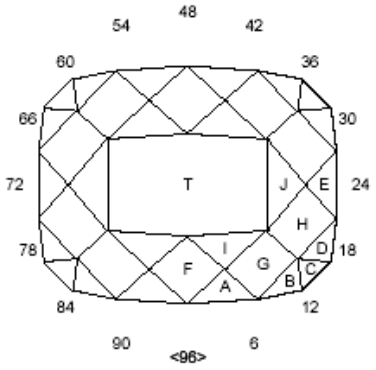
PAVILION

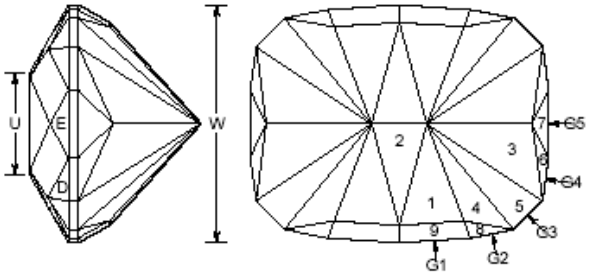
1	49.00°	01-31-33-63-65-95	CTP
2	43.00°	16-48-80	Meet culet (CAM)
G1	90.00°	01-31-33-63-65-95	Girdle
G2	90.00°	16-48-80	Even girdle
3	43.00°	03-29-35-61-67-93	Meet 1, 2, Girdle

CROWN

A	30.00°	01-31-33-63-65-95	Establish girdle thickness
B	29.60°	16-48-80	Meet A, Girdle
T	0.00°	Table	Meet A, B, C
C	29.00°	96-32-64	Meet A, Girdle

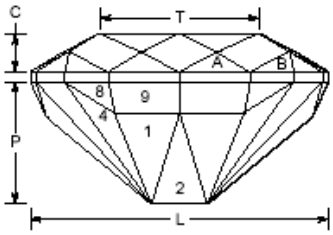
Fast easy performer; High yield on crystals this shape
E:\Dvue2\MsMth154.gem





Sultan's Seat

(keel pavilion)
by John Bailey, 2005
Angles for R.I. = 1.540
67 + 18 girdles = 85 facets
2-fold, mirror-image symmetry
96 index
L/W = 1.250 T/W = 0.665 U/W = 0.430
P/W = 0.515 C/W = 0.162
Vol./W³ = 0.392



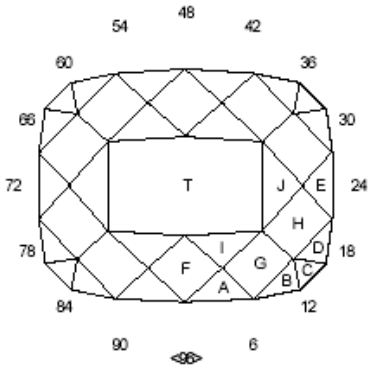
PAVILION

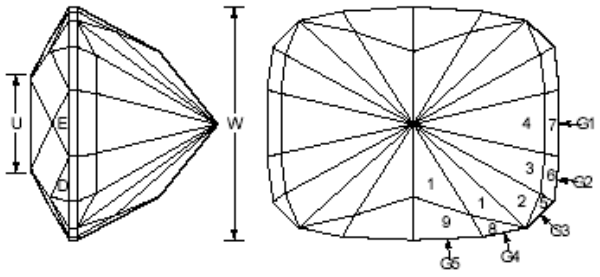
1	42.58°	01-47-49-95	CTP - Preform at 42.5 degrees!
G1	90.00°	01-47-49-95	Calibrate width
2	42.00°	96-48	Meet 1, G1
3	42.00°	18-30-66-78	Meet 1, 2, 3, 4
4	42.00°	09-39-57-87	Meet 1, 2
5	42.00°	12-36-60-84	Meet 1, 2, 3
G2	90.00°	03-45-51-93	Meet 1, 3, G1
G3	90.00°	12-36-60-84	Meet 3, 4, G2
G4	90.00°	22-26-70-74	Meet 4, 5, G3
6	60.00°	22-26-70-74	Meet 4, 5, G3, G4
7	65.50°	24-72	Meet 5, 6
G5	90.00°	24-72	Meet 5, 6, 7
8	60.00°	03-45-51-93	Meet 3, 4, G2, G3
9	60.66°	01-47-49-95	Meet 8, G, G2 - Overcuts #2 until #1 adjusted

CROWN

A	31.50°	01-47-49-95	Set girdle thickness
B	32.20°	03-45-51-93	Even girdle
C	38.50°	12-36-60-84	Even girdle
D	31.40°	22-26-70-74	Even girdle
E	31.00°	24-72	Even girdle
F	29.60°	96-48	Meet A, G1
G	30.00°	02-46-50-94	Meet A, B, Girdle
H	29.30°	23-25-71-73	Meet D, E, Girdle
I	27.90°	01-47-49-95	Meet A, F, G
J	27.30°	24-72	Meet E, H and G, H, I
T	0.00°	Table	Meet F, I and G, H, I, J

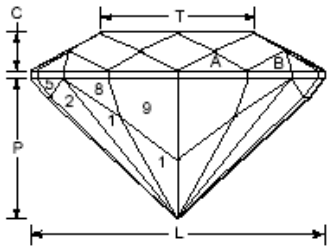
2005 Member's Choice Design Award
COS Brightness = 68.9
E:\Dvue2\MyGems\SltnKeel.gem





The Sultan's Seat

by John Bailey, 2005
Angles for R.I. = 1.540
71 + 18 girdles = 89 facets
2-fold, mirror-image symmetry
96 index
L/W = 1.249 T/W = 0.659 U/W = 0.425
P/W = 0.602 C/W = 0.164
Vol./W³ = 0.399



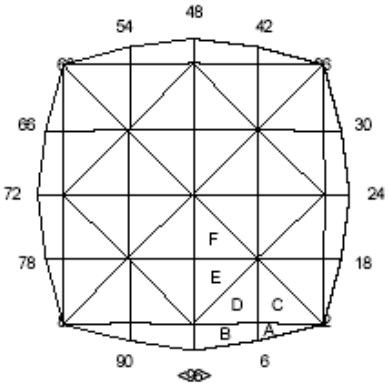
PAVILION

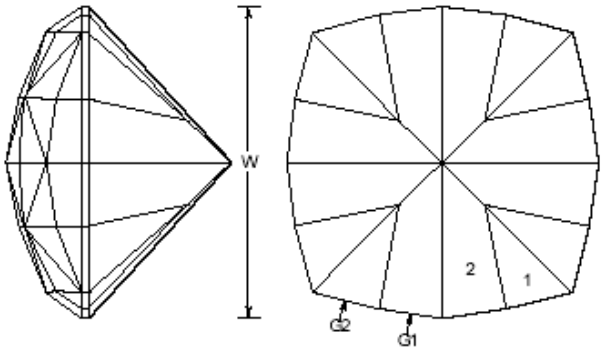
1	43.30°	08-09-39-40-56-57-87-88	CTP
2	42.90°	10-38-58-86	Meet culet
3	42.40°	22-26-70-74	Meet culet
4	43.00°	24-72	Meet culet
G1	90.00°	24-72	Calibrate length
G2	90.00°	22-26-70-74	Meet 3, 4, G1
G3	90.00°	12-36-60-84	Meet 2, 3, G2
G4	90.00°	03-45-51-93	Meet 1, 2, G3
G5	90.00°	01-47-49-95	Meet 1, 1, G4
5	50.00°	12-36-60-84	Meet 1, 2, G3, G4
6	50.90°	22-26-70-74	Meet 2, 3, 5 and G2, G3
7	51.40°	24-72	Meet 3, 4, 6 and G1, G2
8	60.00°	03-45-51-93	Meet 1, 2, G3, G4
9	61.50°	01-47-49-95	Meet 1, 1, 8 and G4, G5

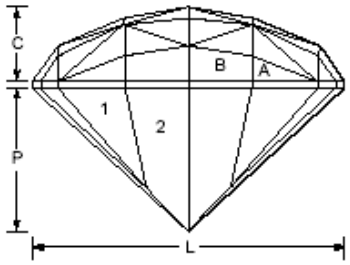
CROWN

A	31.50°	01-47-49-95	Set girdle thickness
B	32.20°	03-45-51-93	Even girdle
C	37.30°	12-36-60-84	Even girdle
D	31.40°	22-26-70-74	Even girdle
E	31.00°	24-72	Even girdle
F	29.60°	96-48	Meet A, G5
G	30.00°	02-46-50-94	Meet A, B, Girdle
H	29.30°	23-25-71-73	Meet D, E, Girdle
I	27.90°	01-47-49-95	Meet A, F, G
J	27.40°	24-72	Meet E, H and G, H, I
T	0.00°	Table	Meet F, I and G, H, I, J

Not quite an OMNI, but cuts a bit similarly.
E:\Dvue2\MyGems\SltnSeat.gem







Ellis' Entegrity

by John Bailey, 2005
Angles for R.I. = 1.540
64 + 16 girdles = 80 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000
P/W = 0.462 C/W = 0.241
Vol./W³ = 0.260

PAVILION

1	43.00°	04-20-28-44-52-68-76-92	CTP; + preform idx 2 @ 43.8 meet culet.
G1	90.00°	02-22-26-46-50-70-74-94	Calibrate size
G2	90.00°	04-20-28-44-52-68-76-92	Even girdle
2	43.00°	02-22-26-46-50-70-74-94	Meet 1, G1, G2

CROWN

A	55.50°	04-20-28-44-52-68-76-92	Establish girdle thickness
B	54.80°	02-22-26-46-50-70-74-94	Even girdle
C	32.00°	10-14-34-38-58-62-82-86	Meet A, G2
D	27.50°	05-19-29-43-53-67-77-91	Meet A, B, C
E	22.60°	03-21-27-45-51-69-75-93	Meet B, B, and C, D
F	12.00°	06-18-30-42-54-66-78-90	Meet C, D, E

In Memoriam, Ellis Boeringer 1937 - 2004
CAM Preform 43 on i4; 43.8 on i2
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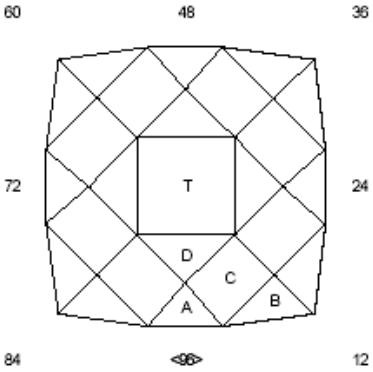

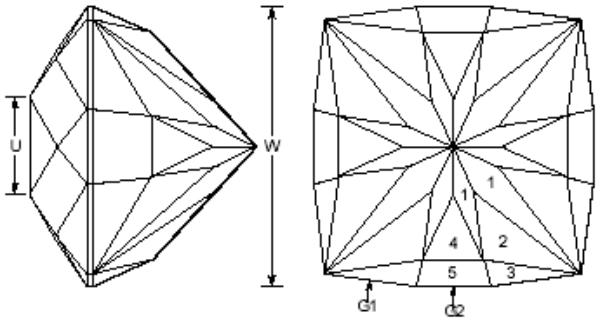

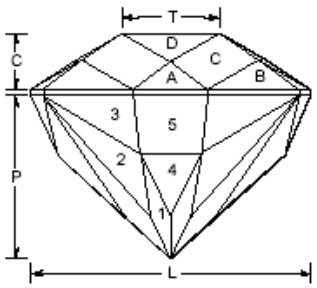

Bare Square #1

by John Bailey, 2004
Angles for R.I. = 1.540
61 + 12 girdles = 73 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000 T/W = 0.350 U/W = 0.350
P/W = 0.582 C/W = 0.201
Vol./W^3 = 0.344

PAVILION

1	42.00°	12-36-60-84	CTP
1	42.00°	01-23-25-47-49-71-73-95	CTP
G1	90.00°	02-22-26-46-50-70-74-94	Set corners
2	44.00°	08-16-32-40-56-64-80-88	Meet 1, G1
3	65.80°	02-22-26-46-50-70-74-94	Meet 1, 2, G1
4	42.80°	96-24-48-72	Meet 1, 2, 3
5	66.30°	96-24-48-72	Meet 2, 3, 4
G2	90.00°	96-24-48-72	Even girdle - Meet 3, 5, G1

CROWN

B	34.10°	02-22-26-46-50-70-74-94	Even girdle
A	33.40°	96-24-48-72	Set girdle width
C	32.00°	01-23-25-47-49-71-73-95	Meet A, B, G1, G2
D	30.20°	96-24-48-72	Meet A, C
T	0.00°	Table	Meet C, D

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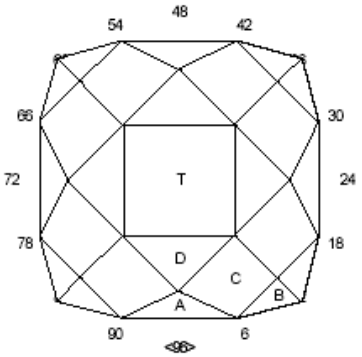

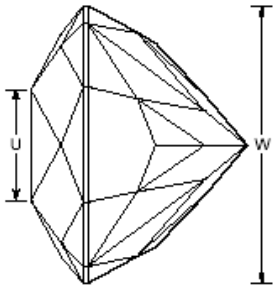

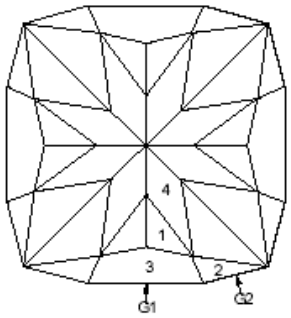

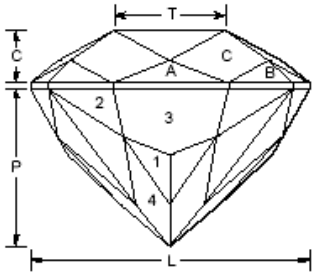

Bare Square #2

by John Bailey, 2004
Angles for R.I. = 1.540
61 + 12 girdles = 73 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000 T/W = 0.398 U/W = 0.398
P/W = 0.566 C/W = 0.187
Vol./W³ = 0.323

PAVILION

1	44.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	CTP as in SRB
G1	90.00°	96-24-48-72	Calibrate size
G2	90.00°	04-20-28-44-52-68-76-92	Meet 1, G1
2	59.00°	04-20-28-44-52-68-76-92	Meet 1, G2
3	60.80°	96-24-48-72	Meet 1, 2, G1, G2
4	42.00°	06-18-30-42-54-66-78-90	Meet 1, 2, 3

CROWN

A	38.20°	96-24-48-72	Set girdle thickness
B	37.30°	04-20-28-44-52-68-76-92	Even girdle
C	32.00°	02-22-26-46-50-70-74-94	Meet A, B, Girdle
D	28.30°	96-24-48-72	Meet A, C
T	0.00°	Table	Meet D, C

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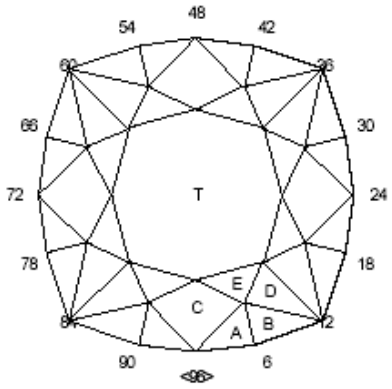

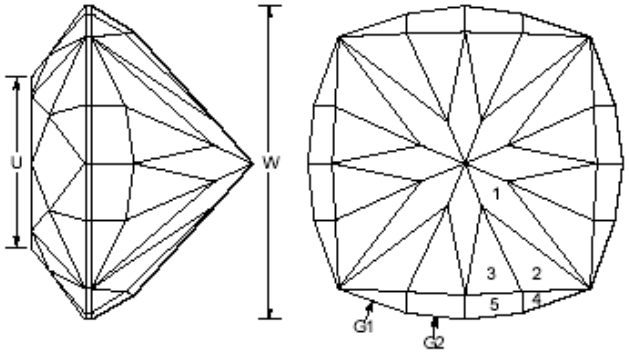

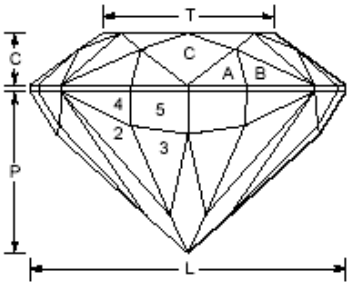

Bare Square #3

by John Bailey, 2004
Angles for R.I. = 1.540
77 + 16 girdles = 93 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000 T/W = 0.541 U/W = 0.541
P/W = 0.512 C/W = 0.167
Vol./W³ = 0.271

PAVILION

1	42.00°	96-12-24-36-48-60-72-84	CTP
G1	90.00°	05-19-29-43-53-67-77-91	Establish corners
2	43.30°	09-15-33-39-57-63-81-87	Meet 1, G1
3	43.70°	03-21-27-45-51-69-75-93	Meet 1, 2
4	60.10°	05-19-29-43-53-67-77-91	Meet 1, 2, G1
5	59.10°	02-22-26-46-50-70-74-94	Meet 2, 3, 4
G2	90.00°	02-22-26-46-50-70-74-94	Meet 4, 5, G1

CROWN

A	40.00°	02-22-26-46-50-70-74-94	Set girdle thickness
B	40.00°	05-19-29-43-53-67-77-91	Even girdle
C	36.00°	96-24-48-72	Meet A, G2
D	32.90°	08-16-32-40-56-64-80-88	Meet B, G1
E	26.00°	04-20-28-44-52-68-76-92	Meet A, B, C, D
T	0.00°	Table	Meet C, E, and D, E

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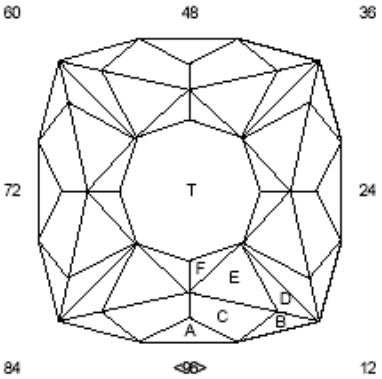

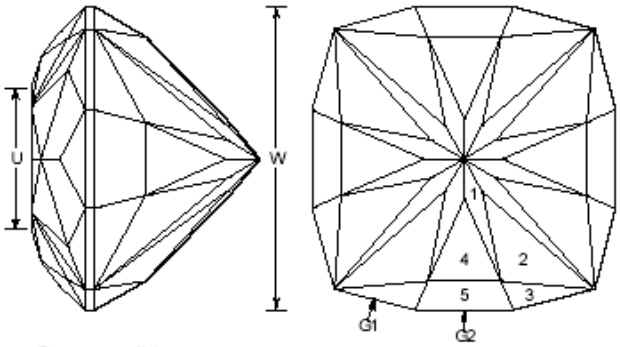

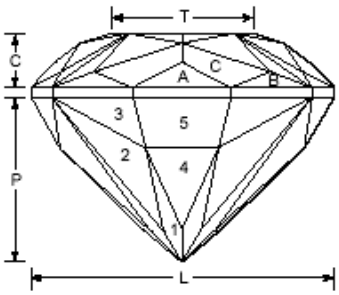

Bare Square #4

by John Bailey, 2004
Angles for R.I. = 1.540
81 + 12 girdles = 93 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000 T/W = 0.467 U/W = 0.467
P/W = 0.546 C/W = 0.180
Vol./W³ = 0.313

PAVILION

1	42.00°	04-12-20-28-36-44-52-60-68-76-84-92	CTP 12-fold
G1	90.00°	04-20-28-44-52-68-76-92	Establish corners
2	43.50°	08-16-32-40-56-64-80-88	Meet 1, G1
3	58.10°	04-20-28-44-52-68-76-92	Meet 1, 2, G1
4	44.20°	96-24-48-72	Meet 1, 2, 3
5	60.00°	96-24-48-72	Meet 2, 3, 4
G2	90.00°	96-24-48-72	Meet 3, 5, G1

CROWN

A	46.20°	96-24-48-72	Set girdle thickness
B	41.20°	04-20-28-44-52-68-76-92	Even girdle
C	37.30°	03-21-27-45-51-69-75-93	Meet A, B, G1, G2
D	26.60°	11-13-35-37-59-61-83-85	Meet B, G1
E	26.00°	07-17-31-41-55-65-79-89	Meet B, C, D
T	0.00°	Table	Meet D, E
F	18.73°	05-19-29-43-53-67-77-91	Meet C, E and D, E, T

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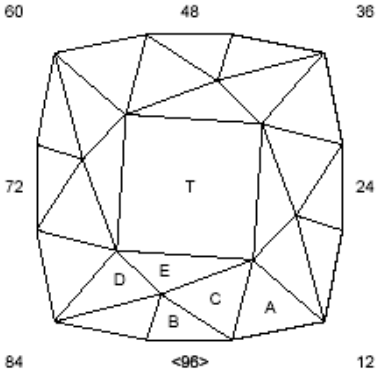
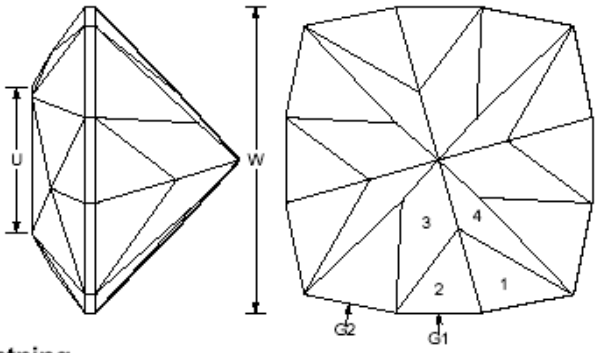
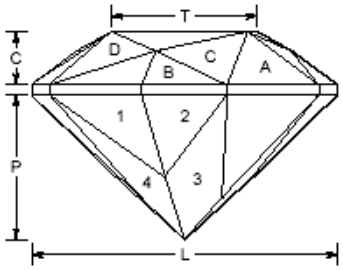






Lightning

by John Bailey, 2004
Angles for R.I. = 1.540
45 + 12 girdles = 57 facets
4-fold radial symmetry
96 index
L/W = 1.000 T/W = 0.474 U/W = 0.474
P/W = 0.474 C/W = 0.174
Vol./W³ = 0.270

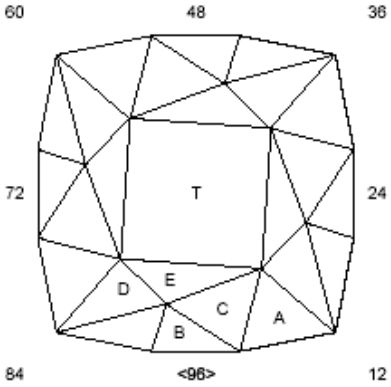
PAVILION

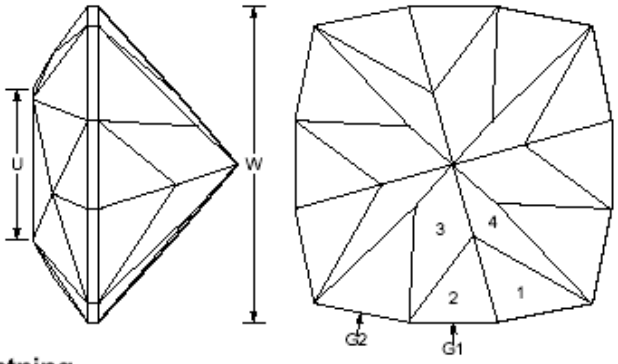
1	43.30°	03-21-27-45-51-69-75-93	CTP
2	44.30°	96-24-48-72	Meet culet point
G1	90.00°	96-24-48-72	Calibrate size
G2	90.00°	03-21-27-45-51-69-75-93	Meet 1, 2, G1 - even girdle
3	43.00°	23-47-71-95	Meet 1, 2, G1, G2 - meet culet point
4	41.30°	04-28-52-76	Meet 1, G1 - meet culet point

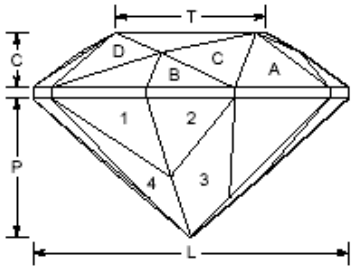
CROWN

A	35.40°	03-21-27-45-51-69-75-93	Set girdle width
B	36.55°	96-24-48-72	Even girdle
C	34.00°	01-25-49-73	Meet A, B, G1, G2
D	32.10°	20-44-68-92	Meet A, G2
E	25.30°	23-47-71-95	Meet A, B, C, D
T	0.00°	Table	Meet A, C, E

2005 Member's Choice Design Award
COS Brightness = 56.4
E:\Dvue2\MyGems\litnin-154.gem







Lightning

by John Bailey, 2004
Angles for R.I. = 1.760
45 + 12 girdles = 57 facets
4-fold radial symmetry
96 index
L/W = 1.000 T/W = 0.474 U/W = 0.474
P/W = 0.441 C/W = 0.174
Vol./W³ = 0.260

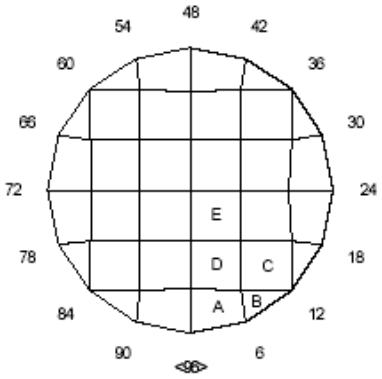
PAVILION

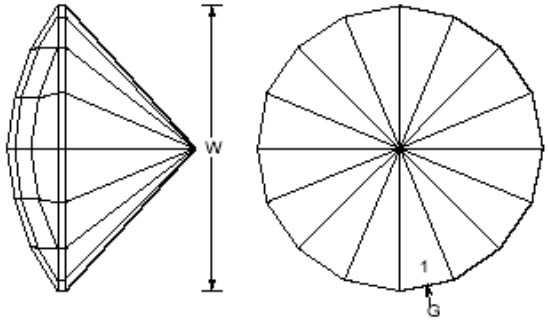
1	41.30°	03-21-27-45-51-69-75-93	CTP
2	42.30°	96-24-48-72	Meet culet point
G1	90.00°	96-24-48-72	Calibrate size
G2	90.00°	03-21-27-45-51-69-75-93	Meet 1, 2, G1 - even girdle
3	41.00°	23-47-71-95	Meet 1, 2, G1, G2 - meet culet point
4	39.30°	04-28-52-76	Meet 1, G1 - meet culet point

CROWN

A	35.40°	03-21-27-45-51-69-75-93	Set girdle width
B	36.55°	96-24-48-72	Even girdle
C	34.00°	01-25-49-73	Meet A, B, G1, G2
D	32.10°	20-44-68-92	Meet A, G2
E	25.30°	23-47-71-95	Meet A, B, C, D
T	0.00°	Table	Meet A, C, E

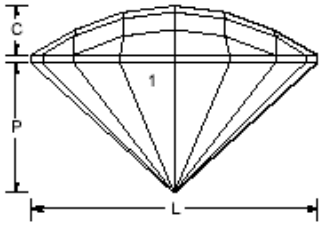
2005 Member's Choice Design Award
COS Brightness = 69.1
E:\Dvue2\MyGems\litnin-176.gem





Peaces

by John Bailey, 2004
Angles for R.I. = 1.540
48 + 16 girdles = 64 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000
P/W = 0.457 C/W = 0.173
Vol./W³ = 0.202



PAVILION

G	90.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Calibrate size
1	43.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	CTP

CROWN

B	33.40°	09-15-33-39-57-63-81-87	Even girdle
A	30.50°	03-21-27-45-51-69-75-93	Set girdle width
C	27.50°	12-36-60-84	Meet B, G
D	21.20°	05-19-29-43-53-67-77-91	Meet A, B, C
E	10.00°	12-36-60-84	Meet D, C

Checkerboard crown for SRB or any other symmetrical, 16-sided pavilion.
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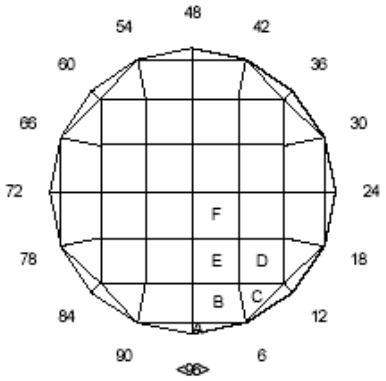
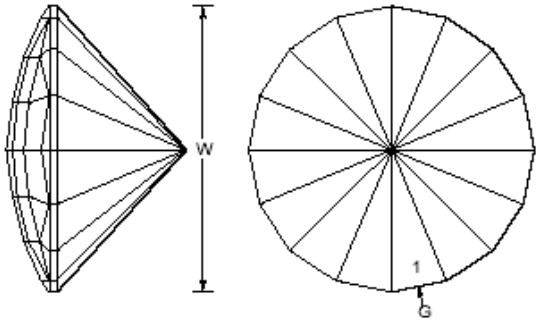
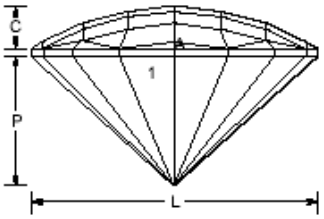




Peaces Too

by John Bailey, 2004
Angles for R.I. = 1.540
64 + 16 girdles = 80 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000
P/W = 0.457 C/W = 0.149
Vol./W³ = 0.191



PAVILION

G	90.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Calibrate size
1	43.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	CTP

CROWN

A	32.80°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Cut even girdle
B	25.70°	04-20-28-44-52-68-76-92	Meet A, G
C	26.90°	08-16-32-40-56-64-80-88	Meet A, B, G
D	19.70°	12-36-60-84	Meet A, C
E	15.70°	07-17-31-41-55-65-79-89	Meet B, C, D
F	10.00°	12-36-60-84	Meet D, E

Checkerboard top for an SRB or any other symmetrical, 16-sided pavilion.
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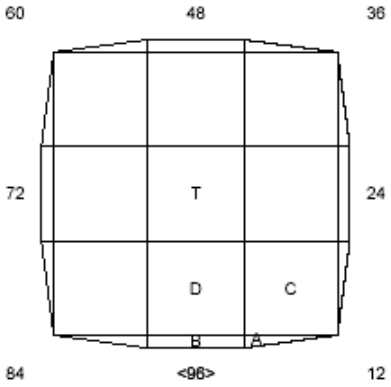
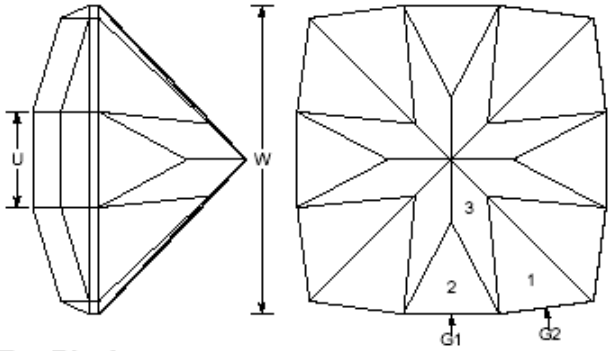
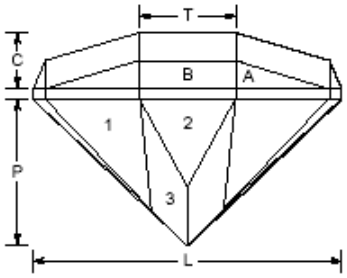




Tic Tac Blank

by John Bailey, 2004
Angles for R.I. = 1.540
41 + 12 girdles = 53 facets
4-fold, mirror-image symmetry
96 index
L/W = 1.000 T/W = 0.310 U/W = 0.310
P/W = 0.475 C/W = 0.183
Vol./W³ = 0.289



PAVILION

1	43.00°	02-22-26-46-50-70-74-94	Cut to point.
2	43.90°	96-24-48-72	Cut to point.
G1	90.00°	96-24-48-72	Calibrate size.
G2	90.00°	02-22-26-46-50-70-74-94	Cut even girdle.
3	43.00°	01-23-25-47-49-71-73-95	Meet at G1, G2, 1, 2

CROWN

A	66.40°	02-22-26-46-50-70-74-94	Set girdle thickness.
B	66.20°	96-24-48-72	Even girdle.
C	23.00°	12-36-60-84	Meet A, G2.
D	16.70°	96-24-48-72	Meet A, B, C, and A, B, D.
T	0.00°	Table	Meet C, D.

2005 Member's Choice Design Award
COS Brightness = 83.9
E:\Dvue2\MyGems\tictacblank.gem