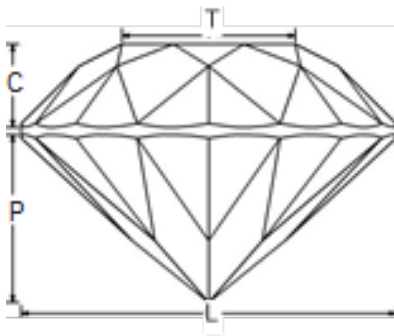
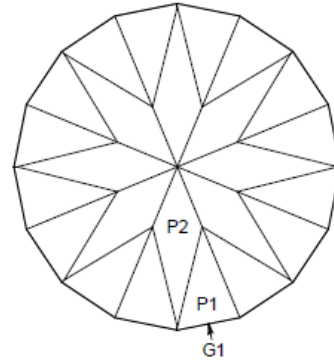
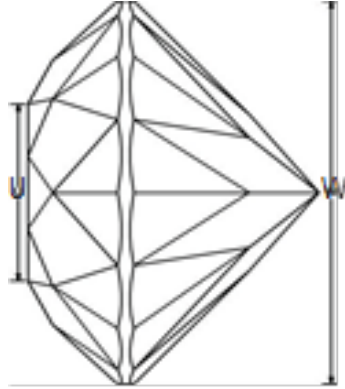
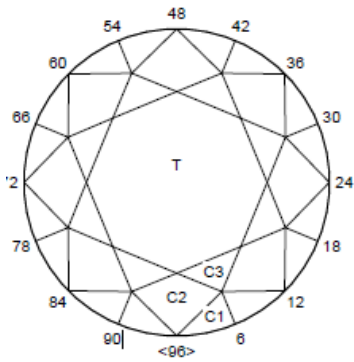


Standard Round Brilliant with Continuous Girdle

Section O 8A.1 Coloured Cubic Zirconia

Section I 8A.2 Coloured Cubic Zirconia

Section N 8A.3 Coloured Cubic Zirconia



Meets 41 (Crown - 24, Pavillion - 17)

Angles for R.I. = 2.160

57 + rolled girdle

8-fold, mirror-image symmetry

96 index

$L/W = 1.000$ $T/W = 0.593$ $U/W = 0.593$

$P/W = 0.461$ $C/W = 0.164$

$Vol. /W^3 = 0.225$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

N.B. Facet drawings are for illustration purposes only and not necessarily to scale. The length to width ratios for specified sizes may not necessarily align.

PAVILION

P1 45.00° 03-09-15-21-27-33-39-45
51-57-63-69-75-81-87-93 Cut to TCP

G1 90.00° Cut to size, "rolled girdle"

P2 43.00° 96-12-24-36-48-60-72-84 Cut to Girdle

CROWN

C1 44.00° 03-09-15-21-27-33-39-45
51-57-63-69-75-81-87-93 Set girdle thickness

C2 37.00° 96-12-24-36-48-60-72-84 Cut to Girdle

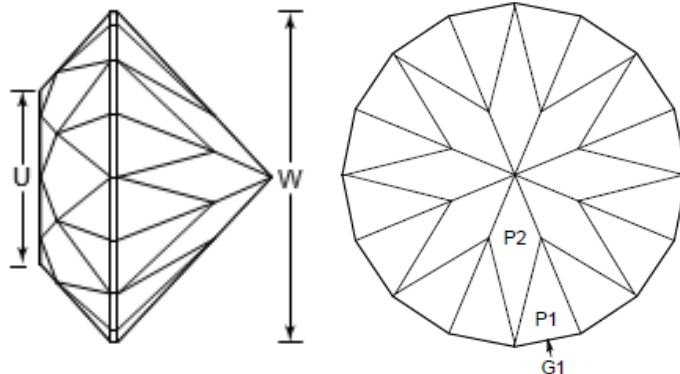
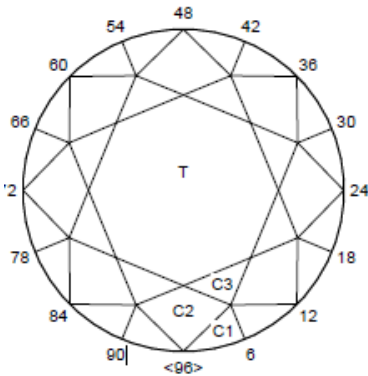
C3 22.00° 06-18-30-42-54-66-78-90 Cut to meet C1, C2

T 0.00° Table Cut to meet C2, C3

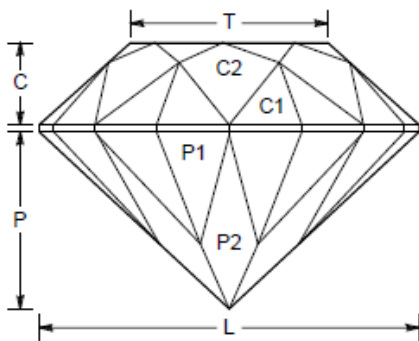
Standard Round Brilliant with Faceted Girdle

Section O 8B.1 Australian Amethyst
 Section I 8B.2 Australian Amethyst
 Section N 8B.3 Australian Amethyst

Specified Size: 8 mm
 Specified Size: 7 mm



Meets 57 (Crown - 32, Pavillion - 25)



Angles for R.I. = 1.540
 57 + 16 girdles = 73 facets
 8-fold, radial symmetry
 96 index
 $L/W = 1.000$ $T/W = 0.519$ $U/W = 0.519$
 $P/W = 0.467$ $C/W = 0.216$
 $Vol. /W^3 = 0.240$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

N.B. Facet drawings are for illustration purposes only and not necessarily to scale. The length to width ratios for specified sizes may not necessarily align.

PAVILION

P1	45.00°	03-09-15-21-27-33-39-45 51-57-63-69-75-81-87-93	Cut to TCP
G1	90.00°	03-09-15-21-27-33-39-45 51-57-63-69-75-81-87-93	Set Size
P2	43.00°	96-12-24-36-48-60-72-84	Cut to Girdle

CROWN

C1	47.00°	03-09-15-21-27-33-39-45 51-57-63-69-75-81-87-93	Cut to establish girdle
C2	42.00°	96-12-24-36-48-60-72-84	Cut to Girdle
C3	27.00°	05-17-29-41-53-65-77-89	Meet C1, C2
T	0.00°	Table	Meet C2, C3

Standard oblong step cut with cut corners

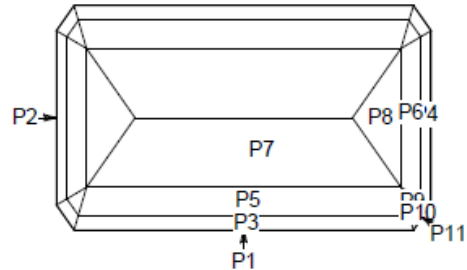
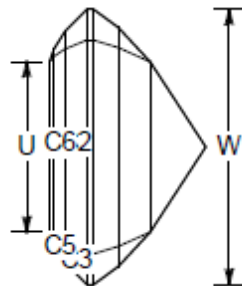
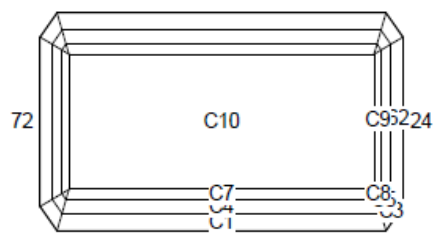
Section O 9A.1 Australian Citrine Specified Size: 12 mm x 14 mm

Section I 9A.2 Australian Citrine Specified Size: 11 mm x 13 mm

Section N 9A.3 Coloured Quartz

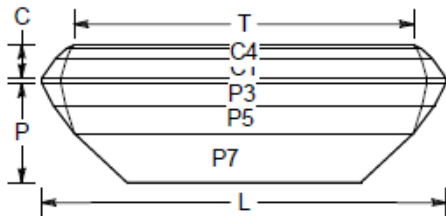
Section J 9A.4 Coloured Quartz

60 48 36



84 <96> 12

Meets 44 (Crown – 24, Pavillion - 20)



Angles for R.I. = 1.540

45 + 8 girdles = 53 facets

2-fold, mirror-image symmetry

96 index

$L/W = 1.666$ $T/W = 1.400$ $U/W = 0.620$

$P/W = 0.408$ $C/W = 0.136$

$Vol. /W^3 = 0.561$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

N.B. Facet drawings are for illustration purposes only and not necessarily to scale. The length to width ratios for specified sizes may not necessarily align.

PAVILION

P1	90.00°	96-48	Set width
P2	90.00°	24-72	Set length
P3	53.92°	96-48	Cut to approx 75% of the height of the stone
P4	63.00°	24-72	Meet at P1, Girdle
P5	42.86°	96-48	Cut to diagram
P6	53.00°	24-72	Cut to meet P3
P7	33.11°	96-48	Cut to diagram, P3 should be 2x P1 wide
P8	43.00°	24-72	Cut to meet P5
P9	48.87°	14.7-33.3-62.7-81.3	Cut to meet P5, P6
P10	59.44°	14.7-33.3-62.7-81.3	Cut to meet P1, P3, P4, P2
P11	90.00°	14.7-33.3-62.7-81.3	Cut to level girdle

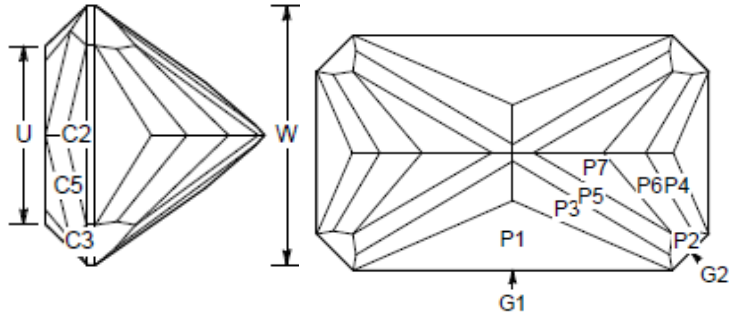
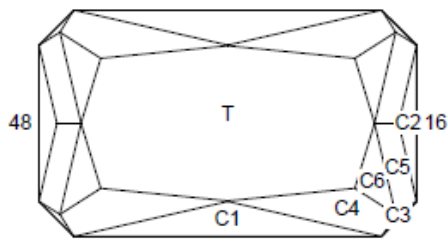
CROWN

C1	44.96°	96-48	Set girdle width
C2	55.00°	24-72	Level girdle
C3	50.94°	14.7-33.3-62.7-81.3	Level girdle
C4	32.20°	96-48	Cut to diagram
C5	37.84°	14.7-33.3-62.7-81.3	Meet C1, C3, C4
C6	42.00°	24-72	Cut to meet C2, C3, C5
C7	18.83°	96-48	Cut to diagram
C8	22.82°	14.7-33.3-62.7-81.3	Meet C4, C5, C7
C9	26.00°	24-72	Meet C5, C6, C8
C10	0.00°	Table	Cut to diagram

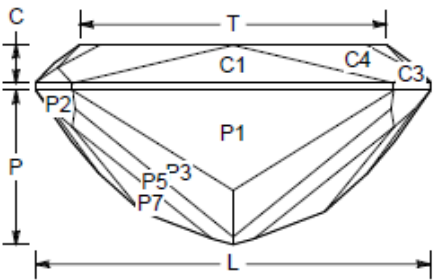
The Meridian Cut

Attributed to the late Jack Bushby
Section O 10.1 Colourless Topaz

40 32 24



56 <64> 8



Meets 55 (Crown – 22, Pavillion - 33)

Angles for R.I. = 1.610

49 + 8 girdles = 57 facets

2-fold, mirror image symmetry

64 index

$L/W = 1.666$ $T/W = 1.296$ $U/W = 0.685$

$P/W = 0.651$ $C/W = 0.162$

$Vol. /W^3 = 0.663$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

G1	90.00°	64-32
G2	90.00°	08-16-24-40-48-56
P1	55.00°	64-32
P2	55.00°	08-16-24-40-48-56
P3	49.50°	01-31-33-63
P4	49.50°	15-17-47-49
P5	43.25°	03-29-35-61
P6	43.25°	13-19-45-51
P7	39.00°	05-27-37-59

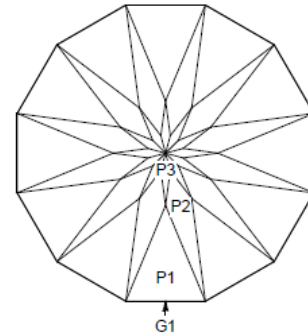
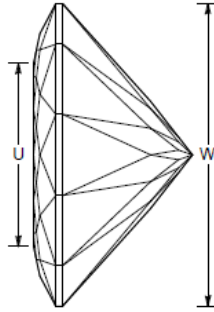
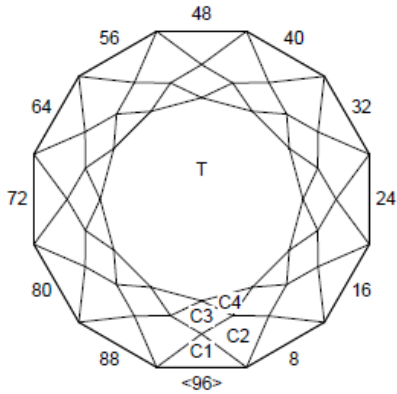
CROWN

C1	46.00°	64-32
C2	46.00°	16-48
C3	68.42°	08-16-24-40-48-56
C4	36.00°	01-31-33-63
C5	36.00°	15-17-47-49
C6	25.00°	13-19-45-51
T	00.00°	Table

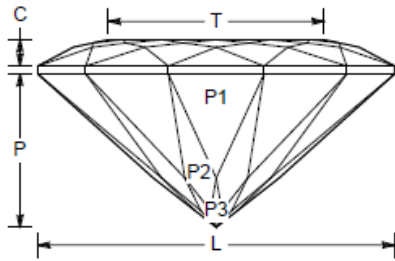
Centralian Star

Bob Kay

Section I 10.2 Colourless Topaz



Meets 73 (Crown – 48, Pavillion - 25)



Angles for R.I. = 1.610
 85 + 12 girdles = 97 facets
 12-fold, radial symmetry
 96 index
 $L/W = 1.000$ $T/W = 0.605$ $U/W = 0.605$
 $P/W = 0.429$ $C/W = 0.074$
 $Vol. /W^3 = 0.179$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

P1	42.00°	96-08-16-24-32-40 48-56-64-72-80-88	Cut to TCP
G1	90.00°	96-08-16-24-32-40 48-56-64-72-80-88	Establish size
P2	40.00°	04-12-20-28-36-44 52-60-68-76-84-92	Cut to Girdle
P3	38.00°	96-08-16-24-32-40 48-56-64-72-80-88	Cut to P1

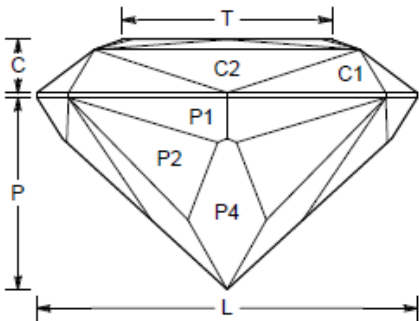
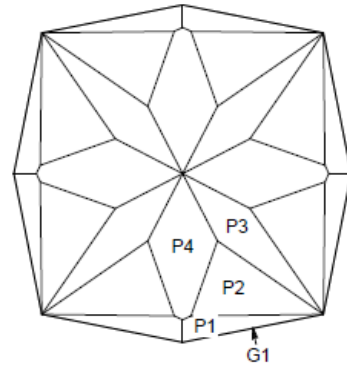
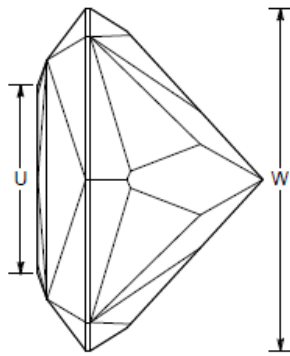
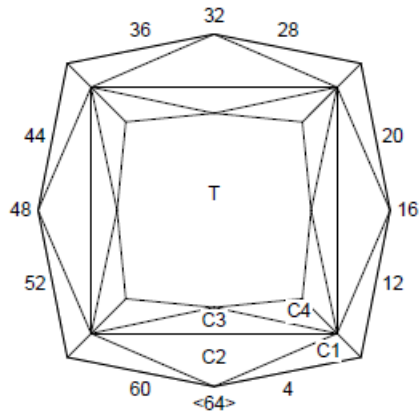
CROWN

C1	28.00°	96-08-16-24-32-40 48-56-64-72-80-88	Establish Girdle
C2	22.00°	04-12-20-28-36-44 52-60-68-76-84-92	Meet Girdle
C3	12.00°	96-08-16-24-32-40 48-56-64-72-80-88	Meet C1
C4	08.00°	04-12-20-28-36-44 52-60-68-76-84-92	Meet C2
T	0.00°	Table	Meet C3, C4

JBCROSS

The late Jack Bushby

Section N 10.3 Colourless Man-made Cubic Zirconia



Meets 25 (Crown – 16, Pavillion - 9)

Angles for R.I. = 2.160

49 + 8 girdles = 57 facets

8-fold, radial symmetry

64 index

$L/W = 1.000$ $T/W = 0.552$ $U/W = 0.552$

$P/W = 0.504$ $C/W = 0.140$

$Vol. /W^3 = 0.257$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

G1	90.00°	02-14-18-30-34-46-50-62
P1	58.50°	02-14-18-30-34-46-50-62
P2	47.00°	03-13-19-29-35-45-51-61
P3	40.50°	08-24-40-56
P4	42.50°	64-16-32-48

Size Stone

Establish girdle to about 75% of stone depth

Meet at Girdle

Meet at Girdle

Meet at PCP. Cut to diagram

CROWN

C1	55.00°	02-14-18-30-34-46-50-62
C2	37.00°	64-16-32-48
C3	20.00°	64-16-32-48
C4	14.00°	01-15-17-31-33-47-49-63
T	00.00°	Table

Establish Girdle

Meet at Girdle

Cut to meet C1, C2

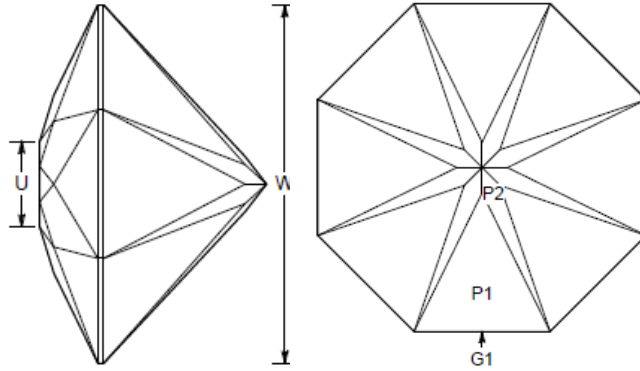
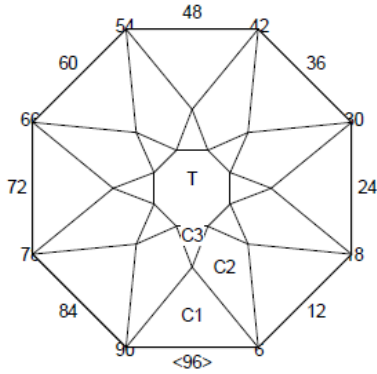
Cut to meet C1, C2, C3

Cut to meet C3, C4

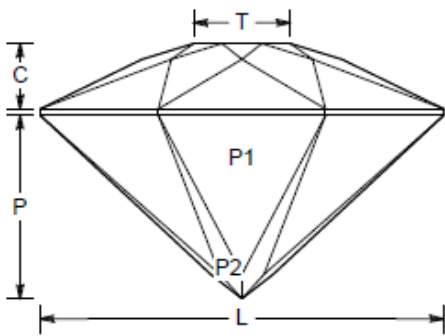
Topaz Twinkler-96

Bob Kay

Section J 10.4 Colourless Topaz



Meets 41 (Crown – 24, Pavillion - 17)



Angles for R.I. = 1.610
 41 + 8 girdles = 49 facets
 8-fold, radial symmetry
 96 index
 $L/W = 1.000$ $T/W = 0.239$ $U/W = 0.239$
 $P/W = 0.454$ $C/W = 0.162$
 $Vol. /W^3 = 0.204$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

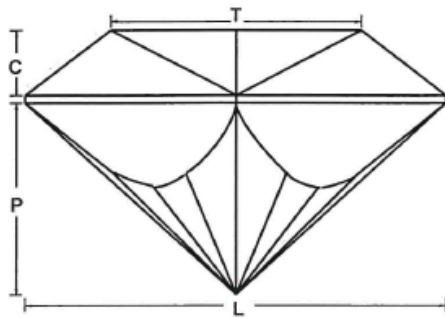
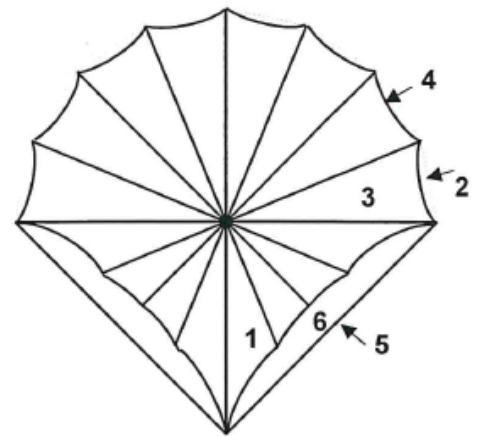
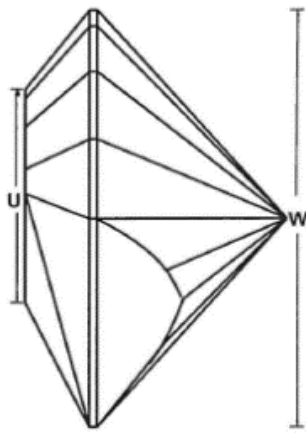
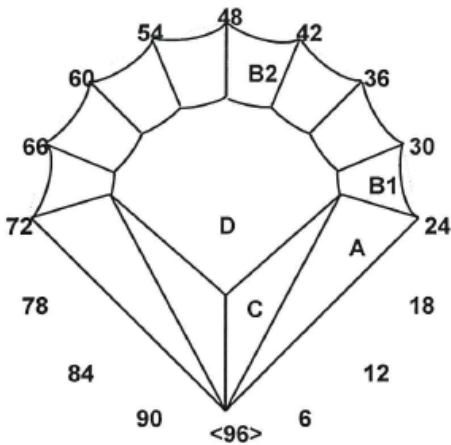
P1	43.00°	96-12-24-36-48-60-72-84	Cut to TCP
G1	90.00°	96-12-24-36-48-60-72-84	Set size
P2	40.00°	06-18-30-42-54-66-78-90	Cut to meet girdle and form PCP

CROWN

C1	26.00°	96-12-24-36-48-60-72-84	Cut to level girdle
C2	21.50°	06-18-30-42-54-66-78-90	Meet at Girdle
C3	17.00°	96-12-24-36-48-60-72-84	Meet at C1
T	00.00°	Table	Meet C2, C3

Montezuma Concavia – Concave Cut

Modified by Paul Sabolta 2018 for Concave
 From an original design by Arya Akhavan 2013
 Section O 10.5 Blue Man-made Cubic Zirconia



Meets 37 (Crown – 20, Pavillion - 17)

Angles for R.I. = 2.160

31 + 10 girdles = 41 facets

1-fold, mirror-image symmetry

96 index

$L/W = 1.000$ $T/W = 0.599$ $U/W = 0.513$

$P/W = 0.457$ $C/W = 0.155$

$Vol. /W^3 = 0.180$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

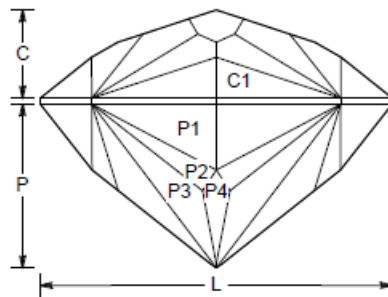
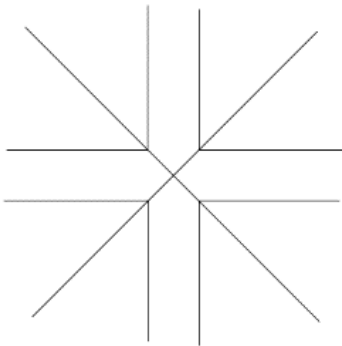
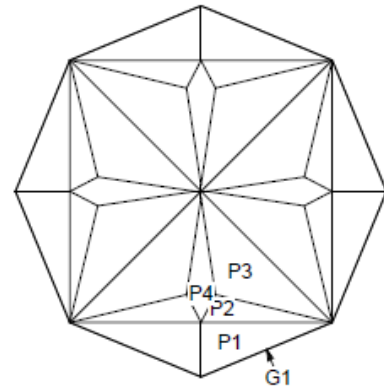
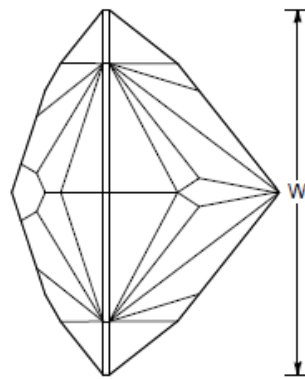
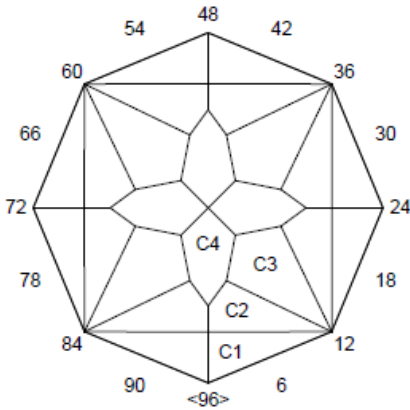
1	43.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Preform, Cut to TCP (Flat Facets)
2	90.00°	27-33-39-45-51-57-63-69	Preform, Set stone size (8 Flat Facets) Minimum 10mm
3	43.00°	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Concave (16 Concave Facets) Form PCP (Mandrel size, cutters choice to achieve meetpoints)
4	90.00°	27-33-39-45-51-57-63-69	Concave (8 Concave Facets) Form PCP (Mandrel size, cutters choice to achieve meetpoints)
5	90.00°	12-84	Meet 3,4
6	70.00°	12-84	Level girdle

CROWN

A	40.00°	12-84	Set girdle thickness to suit
B1	40.00°	27-33-39-45-51-57-63-69	Level girdle (8 Flat Facets)
B2	40.00°	27-33-39-45-51-57-63-69	Concave (8 Concave Facets) (Mandrel size, cutters choice to achieve meetpoints)
C	34.67°	11-85	Meet A, 3
D	00.00°	Table	Meet A, C, B2

English Rose

Maurice Jones, Salisbury East, SA
Section O 11.1 Colourless Quartz



Meets 30 (Crown – 13, Pavillion – 17)

Angles for R.I. = 1.540
52 + 8 girdles = 60 facets
4-fold, radial symmetry
96 index
L/W = 1.000
P/W = 0.465 C/W = 0.251
Vol. /W³ = 0.214

Note: Facets on 43.00° do not meet at culet, as shown above

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

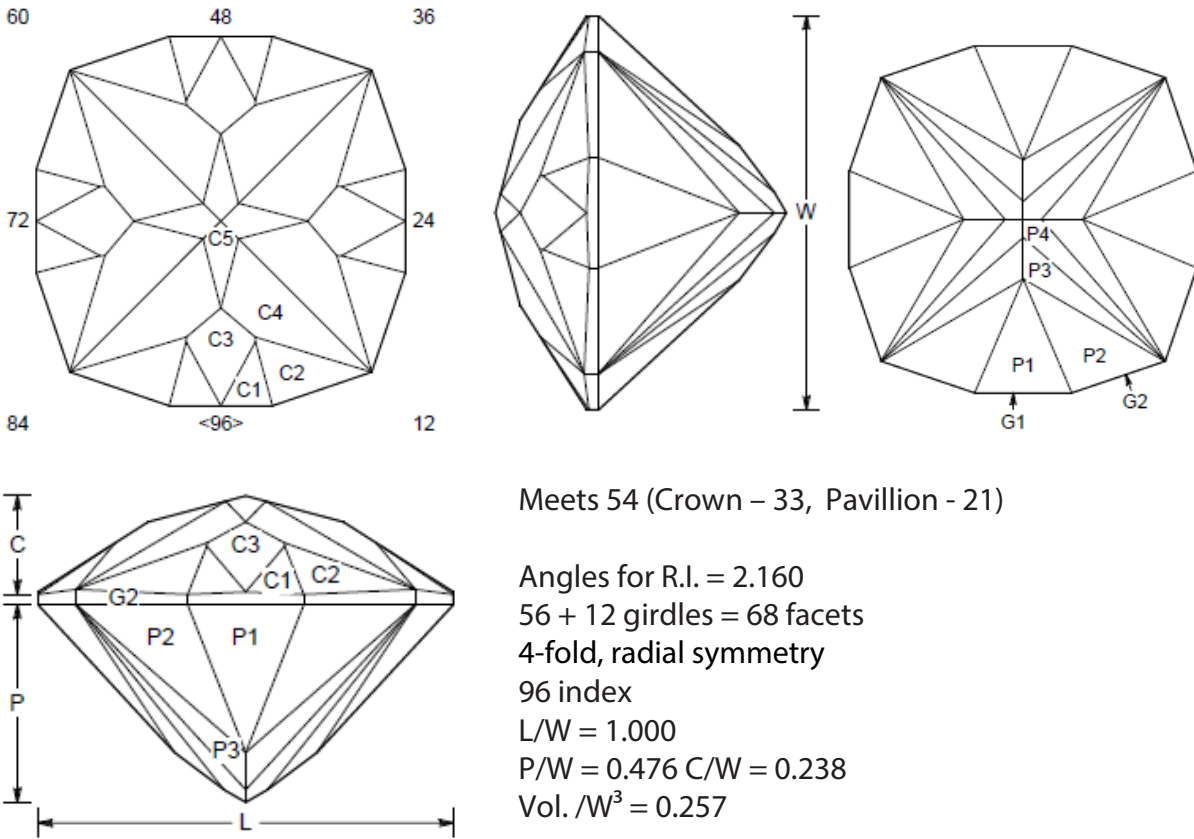
P1	54.00°	06-18-30-42-54-66-78-90	Cut to TCP
G1	90.00°	06-18-30-42-54-66-78-90	Set size, level girdle
P2	50.00°	07-17-31-41-55-65-79-89	Meet P1, Girdle
P3	43.00°	11-13-35-37-59-61-83-85	Meet P1, P2, G
P4	38.40°	96-24-48-72	Meet P1

CROWN

C1	40.80°	06-18-30-42-54-66-78-90	Cut to establish girdle
C2	33.40°	08-16-32-40-56-64-80-88	Cut to meet Girdle
C3	30.00°	12-36-60-84	Cut to meet C1, C2 at Girdle
C4	18.20°	96-24-48-72	Cut to 50% of width of stone

Vesper

Maurice Jones, Salisbury East, SA
Section I 11.2 Colourless Man-made Cubic Zirconia



Meets 54 (Crown – 33, Pavillion - 21)

Angles for R.I. = 2.160
56 + 12 girdles = 68 facets
4-fold, radial symmetry
96 index
L/W = 1.000
P/W = 0.476 C/W = 0.238
Vol. /W³ = 0.257

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

G1	90.00°	96-24-48-72	Set size
G2	90.00°	05-19-29-43-53-67-77-91	Cut as per diagram
P1	47.30°	96-24-48-72	Cut to TCP
P2	45.00°	05-19-29-43-53-67-77-91	Meet P1, Girdle
P3	41.00°	08-16-32-40-56-64-80-88	Meet Girdle
P4	39.50°	12-36-60-84	Meet G, P3. Form PCP

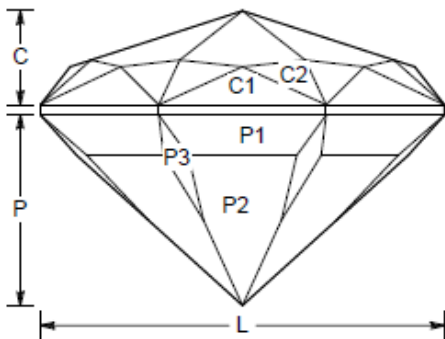
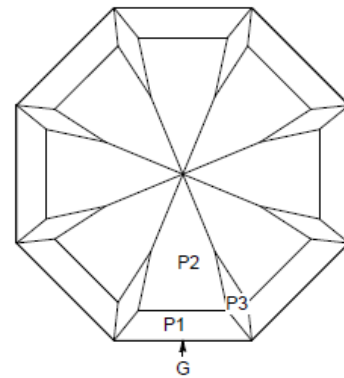
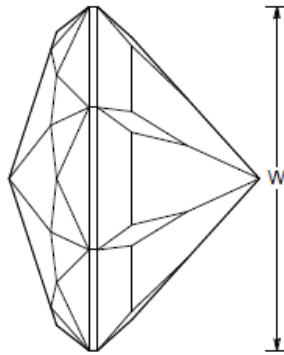
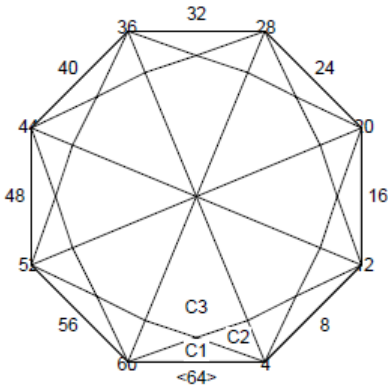
CROWN

C1	33.50°	01-23-25-47-49-71-73-95	Establish Girdle
C2	33.00°	04-20-28-44-52-68-76-92	Establish Girdle
C3	32.50°	96-24-48-72	Meet Girdle
C4	22.82°	10-14-34-38-58-62-82-86	Meet Girdle
C5	15.00°	96-24-48-72	Meet C3

Petunia

The Late Jack Bushby

Section N 11.3 Coloured Man-made Cubic Zirconia



Meets 34 (Crown – 25, Pavillion - 9)

Angles for R.I. = 2.160

56 + 8 girdles = 64 facets

8-fold, radial symmetry

96 index

$L/W = 1.166$ $T/W = 0.519$ $U/W = 0.620$

$P/W = 0.583$ $C/W = 0.194$

$Vol. /W^3 = 1.147$

Gemcad work by Carol van der Pennen, for GEMBOREE 2024

PAVILION

P1	48.00°	64-08-16-24-32-40-48-56	Cut to TCP
G	90.00°	64-08-16-24-32-40-48-56	Set size
P2	42.17°	64-08-16-24-32-40-48-56	Cut to leave P1 approx 1/3 original
P3	42.00°	04-12-20-28-36-44-52-60	Cut to meet P1, Girdle

CROWN

C1	52.00°	64-08-16-24-32-40-48-56	Cut to establish girdle
C2	39.90°	02-06-10-14-18-22-26-30-34-38-42-46-50-54-58-62	Cut to meet Girdle
C3	18.00°	64-08-16-24-32-40-48-56	Cut to meet C1, C2