

**2024
ANNUAL
FACETING
COMPETITION**



**SCHEDULE
CONDITIONS
DIAGRAMS &
ENTRY FORM**

ACKNOWLEDGEMENTS

With pleasure we present the competition schedule for the Australian Facetors' Guild Limited 2024 Annual Competition.

We thank our sponsors for their generous donations towards the prizes of rough, gift vouchers and faceting design books and welcome some new sponsors for the prizes.

Andrew Brown has kindly consented to us using some of his designs and kindly created a new design specifically for this competition, the Tiger Yin Yang Oval 154 (section O.11.4).

We have checked the designs for performance and are happy that all will cut a decent stone. However some designs were created for sapphires and trade-offs are required for lower refractive index materials and we encourage all competitors to check the designs and make their own call on the optimization of these designs.

Lastly we ask that if you copy any of the designs into your own computer program (e.g. Gem Cut Studio or Gemcad) we ask that you acknowledge the creator of the cut in your design file to recognize the creator of the design.

Please also obtain the author's permission before publishing any of the designs, for example when using them for another competition. Evan Williams bequeathed his designs to the Australian Facetors' Guild Limited and the secretary is the appropriate person to contact in relation to his designs.

Committee – 2024 Annual Competition

Quality Gem Rough Prize

Proudly sponsored by

QUALITY GEM ROUGH SUPPLIES

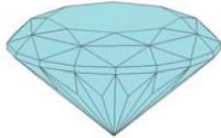
Glenn Huntley

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**See you at many of the lapidary and gem shows
around Australia**

Keith Pittaway Memorial Prize

Proudly sponsored by Ian Pittaway

Ian Pittaway continued sponsoring this prize in memory of his father. He wrote the following.

Keith's interest in rocks and gemstones intensified with the formation of the Port Hacking Lapidary Club in 1972.

Within 5 years he had turned his hobby into a business, acquiring Embel Lapidary in Punchbowl NSW.

Embel made an entry level faceting machine, selling at a price point less than the Gemmaster and Ultratech machines.

Besides providing advice on all things lapidary, Keith continued the manufacturing of the Embel faceting machine and conducted weekly faceting classes for up to 8 students.

In the 1980's Keith was an active member of the AFG Sydney branch, including time as NSW State Director.

His passion for encouraging faceting "beginners" saw Keith sponsoring the annual Novice Champion Trophy, until his death in 1994.

Jim Goldacre Prize

Proudly sponsored by AFG Perth Group,

Jim joined the AFG Perth Group late 1997. His interest in faceting led him to be an instructor, a Judge and the W.A. State Director (2001 until his death). He encouraged members to enter Guild Competitions as a means to not only improve their skills but also receive feedback on their cutting via the Judge's comments

Over a period of time Jim realised that people found it daunting entering the Annual competition for the first time. He decided that an incentive was needed to encourage members and he put forward this idea of a Prize to our members for discussion and approval.

Jim passed away in 2006 while conducting a judging course but his idea of a sponsored trophy for the runner up in the Novice Section came to fruition. In honour of Jim's contribution to our members, the Guild and his ideal of encouraging novices to "have a go" in competitions, the AFG Perth Group unanimously agreed that the Trophy be named as "The Jim Goldacre Trophy" and the annual sponsorship continues to this day.



Mullins is pleased to sponsor the 2024 Annual Competition schedule

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Tony Annear Prizes

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BR Gemstones.

Brian and Robyn usually have a stall
at most of the gem shows in South
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BR Gemstones

ABN: 90 253 253 366



- *Quality Gem Rough*
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- *Rare and Unusual Gems*

Brian & Robyn

Phone 07 3281 8207

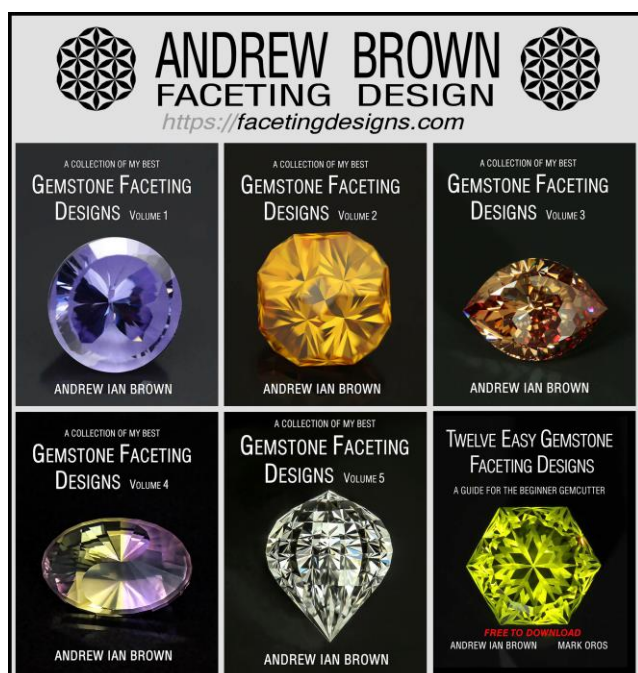
PO Box 2164 North Ipswich Q 4305

Email: gem_stones@bigpond.com

Web: www.brgemstones.com.au

Gemstone Faceting Designs Prizes

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Andrew Brown



The free Twelve Easy Gemstone Faceting
Designs may be downloaded from
<https://facetingdesigns.com/beginnerbook/>

Bob Chipperfield Prize

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2024 AUSTRALIAN FACETORS GUILD COMPETITION CONDITIONS, TROPHIES, DIAGRAMS & ENTRY FORM

CONDITIONS OF ENTRY:

1. Unless otherwise stated in these Conditions, this competition is staged in accordance with the "Competitor & Judging Manual LAPIDARY AND ALLIED COMPETITIONS", No. 8, issued April 2015 by the Australian Federation of Lapidary & Allied Crafts Association (**J&R Manual**).
2. This is a Level 3 competition as defined in the J&R Manual on page 6. Copies of the J&R Manual are available from the AFG Supplies Officer, whose address is shown on the supplies order form in Facet Talk. It is also available as a digital download on the AFLACA website. Current updates of the manual are also listed on the AFLACA website under: <https://aflaca.org.au/judging-rules/>
3. The competition is conducted in three Divisions – **NOVICE, INTERMEDIATE & OPEN**.
NOVICE DIVISION entrants should carefully read Rule B4.2 on page 6 of the J&R Manual and these conditions.
INTERMEDIATE DIVISION entrants should carefully read Rule B4.3 on page 7 of the J&R Manual and these conditions.
OPEN DIVISION entrants should carefully read Rule B4.4 on page 7 of the J&R Manual.
4. Section numbers used in this competition reflect the numbers in the J&R Manual; e.g. In Section N8A.1: N = Novice Division; 8A is Group 8A (Standard Round Brilliant with Continuous Girdle), as defined on page 44 of the J&R Manual; and 1 means the first section in the relevant Division (in this example Novice Division).
5. Competitors are permitted only one entry in each Section for which they are eligible.
6. Competition Committee members, are not eligible to enter this competition.
7. The Competition Committee reserves the right to change the competition Division or Section of entries where it is deemed appropriate under the rules governing this competition. We recommend competitors consult the J&R Manual and this Schedule before completing the official Entry Form in this Schedule.
8. Boxes containing entries must be clearly marked with the Section number in this Schedule, with the name and colour of the gem material. The abbreviation MM is acceptable for man-made material.
The entrant's name must NOT appear on the box, but MUST be enclosed separately for identification purposes.
9. Competitors are totally responsible for postage to the competition & insurance for their entries at all times. Entries will be return posted as you indicate on the entry form. Whilst all care is taken, the Competition Committee accepts no liability for lost or damaged entries.
Overseas entrants should note:
 - (a) Packages should be marked "**Lapidary Competition Entries to be returned to sender**", with no reference to gemstones.
 - (b) To minimize possible difficulties with Australian Customs, it is recommended that a copy of the competition entry form be included with the stones and only **nominal value** be placed on the customs declaration form which must be fixed to the package.
10. **There are NO ENTRY OR RETURN POSTAGE FEES for this competition.**
11. Entries, with official Entry Form must be received no later than 1st June 2024 to Competition Coordinator at PO Box 3964, Loganholme, Qld 4129. We recommend Australian entries be mailed no later than 25 May 2024.
 - (a) **We recommend Overseas entries be mailed no later than 04 May 2024.**
 - (b) **Entrants wanting confirmation of receipt of entries MUST enclose stamped, self-addressed envelope with entries, or by nominating an e-mail address on the entry form.**
12. Competition e-mail contact: annualcomp@facetorsguild.com.au. The Committee may post responses to enquiries regarding the competition on the Forum <https://facetorsguild.com.au/forum>.
13. All entries will be displayed and results announced at the AFG Annual Seminar held in September 2024.
14. Judging sheets may be collected at noon on the Saturday of the Seminar.
15. Entries, medallions and keeper trophies will be available for collection from 2.00pm on the Sunday of the Seminar. Entries and awards not being collected at the Seminar will be mailed to entrants by 31 October 2024.

SPECIAL CONDITIONS:

- A. All chosen designs have either been previously used in competitions or are known to have been successfully cut using instructions given.
- B. If the information in any part of his competition schedule is different to the information in the relevant cutting diagram (e.g. type of stone), the cutting diagram prevails and must be followed.
- C. Angles are not judged and competitors may vary those supplied in this Schedule PROVIDED this does not change meet points or facet index. Entrants may vary cutting sequence if desired.
- D. All designs must be cut according to the diagram, i.e.; the facet position, basic shape, direction of any spiral effect and meet points must conform to the diagram. However facet sizes may be altered slightly if necessary to achieve meet points.
- E. ALL facets are flat, except where specified in these Special Conditions or a cutting diagram. Any other entry with concave or curved facets will be disqualified.
- F. **Girdle Too Wide:** A Girdle which, at its narrowest point, is more than 5% of the total height of the stone from the Culet to the Table/Apex, as measured by the Judge with a Graticule Loupe, will lose all points for this feature. This is the only all-or-nothing Facet judging feature.
- G. **Girdle Too Narrow:** A girdle which is too narrow (less than 0.1mm) to be assessed by the Judge with a 10x loupe is ineligible for Standard or Modified Cut sections.
- H. **Specified Size:** For every 0.1mm or part thereof away from Specified Size, 1 point will be deducted from the maximum for this feature. However, a total tolerance of up to and including 0.1mm above or below Specified Size, as measured by the Judge, will be allowed before any points deduction. Specified Size is measured on the **shortest axis of outline shape** when viewed from above.
- I. **Minimum Size:** The minimum size in all Sections that do not specify a Minimum Size or a Specified Size is 7mm, measured on the **shortest axis of outline shape** when viewed from above. Stones which are more than 0.1mm below minimum size will be ineligible.
- J. **Colour:** Where the colour is nominated it must be obviously coloured in the cut stone when placed against a white background using artificial daylight lighting. The Competition Committee is the final arbiter of whether an entry varies too far from the stated colour. Where there is doubt, competitors will be given the benefit of the doubt.
- K. **Colour or colourless not specified:** Where the material is specified without any indication of whether it is coloured or not, the entrant may choose to enter a coloured or colourless stone.
- L. **Material:** Where:
 - a. "Natural" is specified, the material must obviously be that material – treated natural material will (e.g. irradiated topaz or heated amethyst (Brazilian citrine) is allowed;
 - b. "MM" or "Man Made" is specified the material must be that material. For example MM Corundum must be man made corundum and not another type of simulant; and
- M. **Natural or MM no specified:** Where the material is named and there is no specification as to whether it is man made or not, either natural or man made material of that type may be used, but simulants not having the physical properties (density, refractive index, etc.) of the specified material may not be used.
- N. **Section I 9A – Labradorite –** all Feldspars allowed including Sunstone.
- O. **Section O.10.5**
 - a. Concave facets will be judged for evenness of curvature, uniformity, polish and meet points. Mandrel size is at the cutters choice to achieve meet points and concave facet shape.
 - b. The minimum size for this section is 10mm measured on the shortest axis.
 - c. The frosted facets must be between 2.5% and 4% of W.

PRIZE LIST:

- A. **Open Champion** - Quality Gem Rough Prize –donated by Glenn Huntley:
Entrant with the highest aggregate points score in Open Sections 1, 2, 3 & 4.
- B. **Open Runner - up** – Bob Chipperfield Prize - Second to a. above. Donated by L&F Enterprises Pty Ltd
- C. **Intermediate Champion** – Tony Annear Prize – provided by BR Gemstones
Entrant with highest aggregate points score in Intermediate Sections 1, 2, 3 & 4.
- D. **Intermediate Runner - up** – Ray and Ruth Grandcourt Prize – provided by Gemcuts.
- E. **Novice Champion Facetor** – Keith Pittaway Memorial Prize – donated by Ian Pittaway.
Entrant with the highest aggregate points score for the best entries in Novice sections 1, 2, 3, and 4.
- F. **Novice Runner - up** – Jim Goldacre Prize - Second to the. above. Donated by AFG Perth Group.
- G. **Highest Score Section N.10.3** – Donated by Andrew Brown
- H. **Highest Score Section N.10.4** – Donated by Andrew Brown
- I. **Highest Score Section N.10.5** – Donated by Andrew Brown
- J. **Highest Score Section O.10.5** - Donated by AFG Moreton Bay Facetors Group
- K. **Champion State** – Peter Collins Prize – Aggregate of 2 Highest scores per State/Territory in each of Novice, Intermediate & Open Divisions, with a minimum of 3 entrants from a State or Territory contributing to the aggregate.
- L. **Highest Scoring Entry** – Gold Medallion – Highest scoring entry in any Section or Division.
- M. **Gold, Silver and Bronze** medallions will be awarded to the Winner, Second and Third place getter in each section. Special Awards will be given for Sections O.10.5.

If two or more entrants tie for the prize, the Committee may split the prize between those entrants or arrange an additional prize.

If there is no first place awarded in a section, the Committee may give the prize for that section to the entrant awarded a Highly Commended and receiving the highest score for that section.

If no entrants in a section qualify for the prize to that section, the Committee may award that prize to the person in that division (Novice, Intermediate, Open) they deem most eligible for the prize or allocate it to the winners of other sections.

The Committee's decision on the allocation of prizes is final. Whilst the Committee seeks to fairly allocate prizes in the spirit of the competition and all care is taken to ensure that the prizes match the description in this schedule, the prize awarded may differ from that described in this Schedule and elsewhere in relation to the competition.

2024 AUSTRALIAN FACETORS' GUILD COMPETITION SCHEDULE

NOTE: this schedule includes diagrams of all cuts nominated in the Sections below.

<u>NOVICE SECTION</u>		<u>INTERMEDIATE SECTIONS</u>	<u>OPEN SECTIONS</u>
<u>N.8B.1 Standard Brilliant with Faceted Girdle</u> QUARTZ	<u>I.9A.1 Standard Oblong Step Cut With Cut Corners</u> RECTANGLE CUT LABRADORITE AND OTHER TRANSPARENT FELDSPARS	<u>O.10.1 Modified Standard Cuts</u> BRILLIANT RECTANGLE CUBIC ZIRCONIA	
		<u>O.11.2 Fancy Cut</u> CUBE ILLUSION TRIANGLE CUBIC ZIRCONIA SPECIFIED SIZE 10MM	
<u>N.9B.2 Standard Square Step Cut With Cut Corners</u> SQUARE STEP CUT COLOURED TOPAZ	<u>I.10.2 Modified Standard Cuts</u> OMNI OVAL CORUNDUM	<u>O.10.3 Modified Standard Cuts</u> PEAR NO 3 TOPAZ	
		<u>O.11.4 Fancy Cuts</u> YIN YANG CITRINE MINIMUM SIZE 10MM	
<u>N.10.3 Modified Standard Cuts</u> TRIOPIC BLAST CUBIC ZIRCONIA	<u>I.11.3 Fancy Cuts</u> 12 MAIN ROUND BRILLIANT NO: 5 MAN MADE SPINEL SPECIFIED SIZE 10MM	<u>O.10.5 Modified Standard Cuts - Concave</u> CONCAVE 6 MAIN ROUND BRILLIANT WITH FROSTED BOUNDARIES, CITRINE MINIMUM SIZE 10MM	
		<u>O.11.4 Fancy Cuts</u> DECA CHECK TWO NATURAL COLOURED QUARTZ	
<u>N.10.5 Modified Standard Cuts</u> BRILLIANT 93 TOPAZ	<u>I.10.4 Modified Standard Cuts</u> TRIANGLE CUSHION BRILLIANT TOPAZ	<u>O.10.5 Modified Standard Cuts - Concave</u> CONCAVE 6 MAIN ROUND BRILLIANT WITH FROSTED BOUNDARIES, CITRINE MINIMUM SIZE 10MM	
		<u>NOTES:</u> Where the material is specified without indicating if it is clear or coloured, both clear and coloured entries are accepted. 2) Note: Section I.9A.1 - all Transparent Feldspars allowed including Labradorite, Sunstone and Orthoclase 3) Novice and Open Competitors – The best score in 4 sections count towards the relevant Prize. Specified Size and Minimum Size are measured across the shortest axis bisecting the Girdle.	

Full size copies of this Schedule, complete with diagrams of all cuts, are available from the AFG Website: www.facetorsguild.com.au

2024 AFG FACETING COMPETITION

ENTRY FORM

NAME: Miss, Mrs., Ms., Mr. ----- **JUNIOR:** YES/NO

ADDRESS: -----(under 16 years at 1/09/24)

-----**STATE** -----**POSTCODE** -----**PHONE**-----

E-mail ADDRESS:-----

NOVICE		INTERMEDIATE		OPEN	
Material	Colour	Material	Colour	Material	Colour
Section N.8B.1		Section I.9A.1		Section O.10.1	
Section N.9B.2		Section I.10.2		Section O.11.2	
Section N.10.3		Section I.11.3		Section O.10.3	
Section N.11.4		Section I.10.4		Section O.11.4	
Section N.10.5				Section O.10.5	

Notes for Entrants:

1. Decide which Sections you are going to enter.
2. Write **Name of Material & Colour** in appropriate space for each Section entered.
3. Fill in the section below and send this form with your Entries to:

Competition Committee: P.O. Box 3964, Loganholme, Queensland, 4129.

To arrive not later than 1ST June 2024

My entries will be collected at the Seminar. ☐

My entries are to be returned to the address above. ☐

I declare that my entries are all my own work, and have not previously won a first prize in any competition at the same or higher Level and Division.

Entrants Signature ----- **Date** -----/-----/-----

Official Use Only:

Entry Form & Entries Received: -----

Entries Checked -----

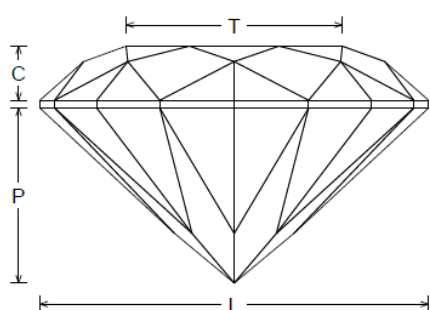
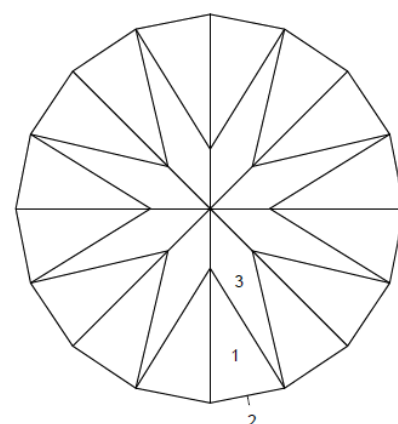
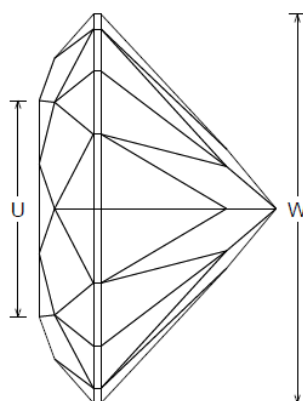
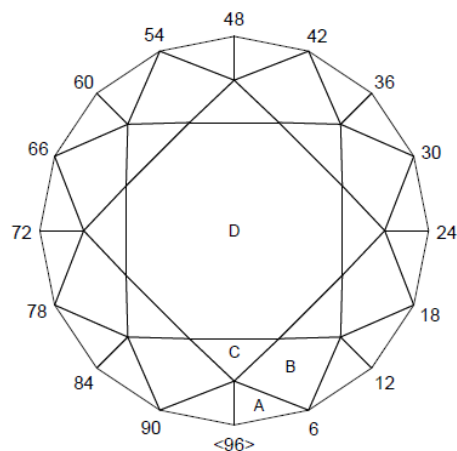
1 2 3 4 5 6

E-mail: annualcomp@facetorsguild.com.au

NOVICE SECTION N.8B.1 – STANDARD BRILIANT WITH FACETED GIRDLE

MATERIAL – QUARTZ

FACETS: 73 – MEETS: 57 (32 CROWN + 25 PAVILION)



Standard Round Brilliant

Unknown -
Set for the 2016 Australian Facetors Guild Competition
Angles for R.I. = 1.540
57 + 16 girdles = 73 facets
8-fold mirror-image symmetry
96 index
 $L/W = 1.000$ $T/W = 0.556$ $U/W = 0.556$
 $P/W = 0.450$ $C/W = 0.139$
 $Vol./W^3 = 0.206$

Pavilion

1	43.50	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Cut to TCP
2	90.00	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Set size of Stone
3	42.00	06-18-30-42-54-66-78-90	Meet 1,2 at girdle

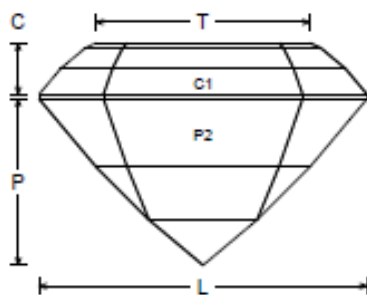
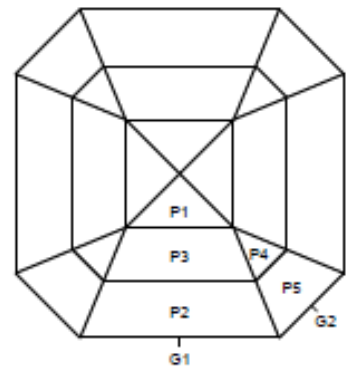
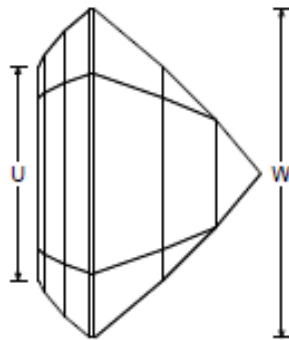
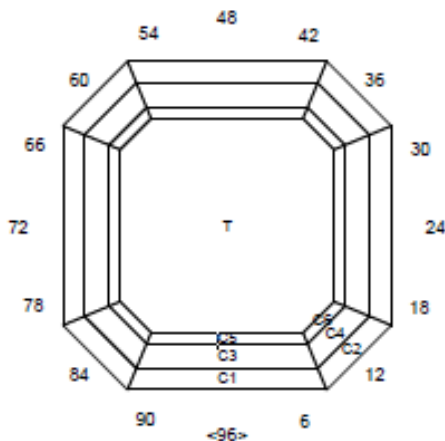
Crown

A	42.00	03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93	Set Girdle Width
B	35.00	06-18-30-42-54-66-78-90	Meet A at Girdle
C	20.00	96-12-24-36-48-60-72-84	Meet A,A,B,B
D	0.00	Table	Meet C,B,C

NOVICE SECTION N.9B.2 – STANDARD SQUARE STEP CUT WITH CUT CORNERS

MATERIAL – COLOURED TOPAZ

FACETS: 53 – MEETS: 45 (24 CROWN + 21 PAVILION)



N 9B-2 Square Step Cut with Cut Corners

by Evan Williams

Material: Topaz

Angles for R.I. = 1.610

45 + 8 girdles = 53 facets

4-fold mirror-image symmetry

96 index

L/W = 1.000 T/W = 0.652 U/W = 0.652

P/W = 0.507 C/W = 0.157

Vol./W³ = 0.298

Pavilion

P1	40.00	96-24-48-72
G1	90.00	96-24-48-72
P2	50.00	96-24-48-72
P3	45.00	96-24-48-72
P4	45.00	12-36-60-84
P5	50.00	12-36-60-84
G2	90.00	12-36-60-84

cut to CP
size stone
make P1 P2 equal width
make P1 P2 P3 equal width
meet P1, P2, P3
meet P2, P3, P4, G1
level girdle

Crown

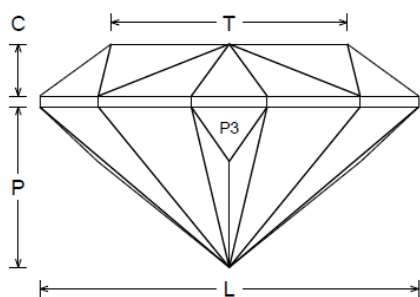
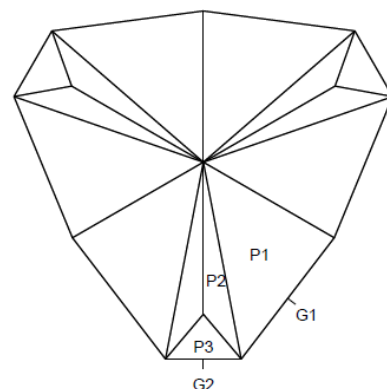
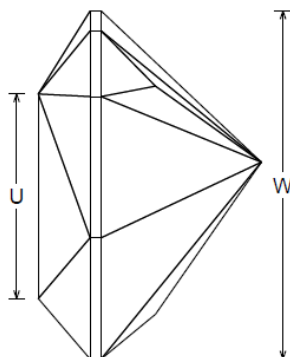
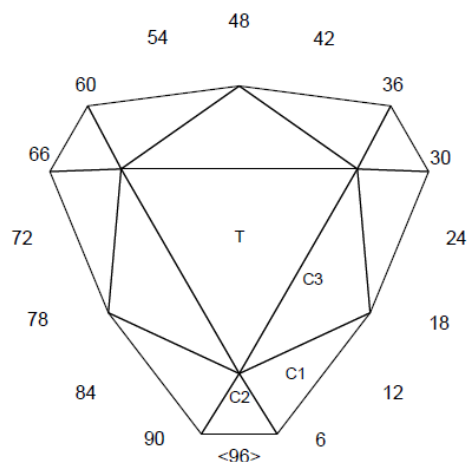
C1	50.00	96-24-48-72
C2	50.00	12-36-60-84
C3	40.00	96-24-48-72
C4	40.00	12-36-60-84
C5	25.00	96-24-48-72
C6	25.00	12-36-60-84
T	0.00	Table

establish girdle thickness
level girdle
cut to equal width, meet C1, C2
meet C1, C2, C3
meet C3, C4
meet C3, C4, C5
cut depth as required

Novice Section N.10.3 – Modified Standard Cuts

Material – Cubic Zirconia

Facets: 37 – Meets: 22 (10 Pavilion + 12 Crown)



N 10.3 - Trioptic Blast

Andrew Brown - July 2022

Cubic Zirconia

Angles for R.I. = 2.150

28 + 9 girdles = 37 facets

3-fold mirror-image symmetry

96 index

$L/W = 1.089$ $T/W = 0.679$ $U/W = 0.588$

$P/W = 0.460$ $C/W = 0.149$

$Vol./W^3 = 0.212$

Pavilion

P1	46.90	14-18-46-50-78-82
P2	42.80	11-21-43-53-75-85
G1	90.00	14-18-46-50-78-82
G2	90.00	96-32-64
P3	50.50	96-32-64

Form PCP

Meet PCP

Set stone size. Establish girdle

Meet G1, P1, P2

Meet G1, G2, P1, P2. Maintain level girdle

Crown

C1	37.80	14-18-46-50-78-82
C2	40.62	96-32-64
C3	32.00	16-48-80
T	0.00	Table

Establish girdle width

Meet G1, G2, C1. Maintain girdle width

Meet G1, C1 & C1, C2

Meet C1, C2, C3

From "Twelve Easy Gemstone Faceting Designs - A guide for the beginner gemcutter"

By Andrew Brown and Mark Oros

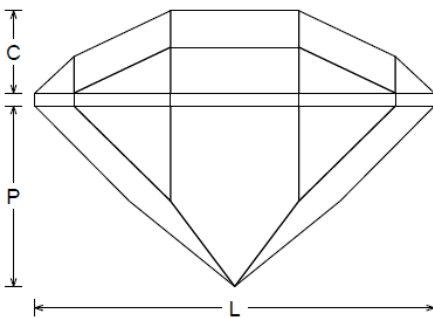
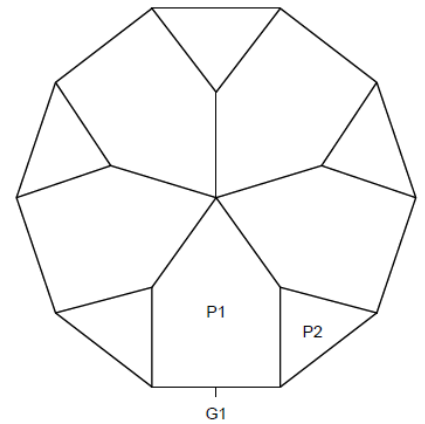
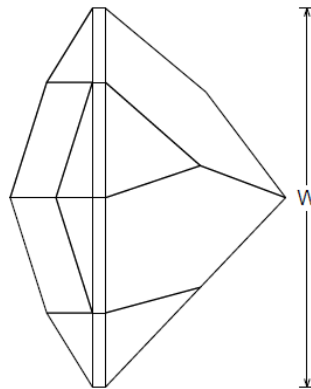
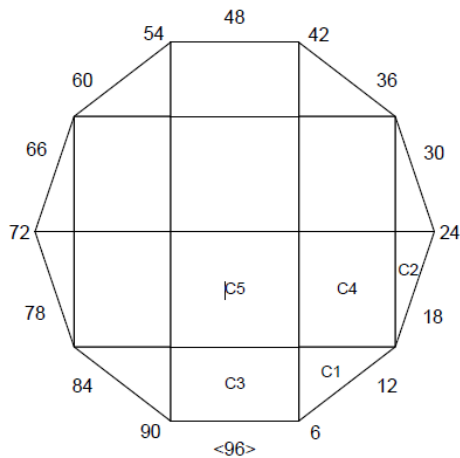
The angle of the C1 facets has been corrected to match Andrew's design. We apologise for any inconvenience. Stones cut to the previous published design will be accepted for judging.

"Twelve Easy Gemstone Faceting Designs – A guide for the beginner gemcutter" by Andrew Brown and Mark Oros is available from <https://facetingdesigns.com/beginnerbook/>

Novice Section N.11.4 – Fancy Cuts

Material –Natural Coloured Quartz

Facets: 36 – Meets: 29 (11 Pavilion + 18 Crown)



N 11-4 Deca Check Two

Andrew Brown - July 2022

Natural Coloured Quartz

Angles for R.I. = 1.540

26 + 10 girdles = 36 facets

1-fold mirror-image symmetry

96 index

L/W = 1.056

P/W = 0.476 C/W = 0.217

Vol./W3 = 0.247

Pavilion

P1	43.60	96-19-38-58-77
G1	90.00	96-10-19-29-38-48-58-67-77-86
P2	50.20	10-29-48-67-86

Create PCP

Cut the 96-19-38-58-77 Girdle facets first then cut rest of facets to same depth.

Meet G1, P1. Maintain level girdle.

Crown

C1	37.93	10-38-58-86
C2	44.60	19-29-67-77
C3	31.72	96-48
C4	29.70	15-33-63-81
C5	17.59	96-48

Establish girdle width.

Meet G1, C1. Maintain girdle width.

Meet G1, C1. Maintain girdle width.

Meet G1, C1, C2

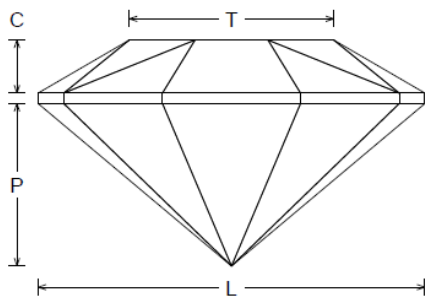
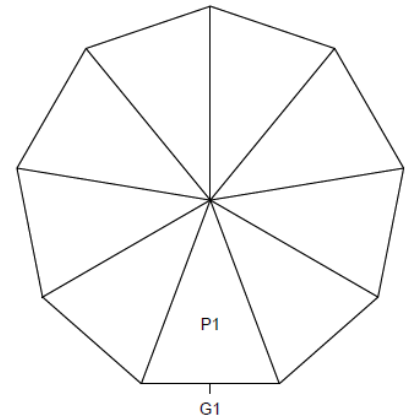
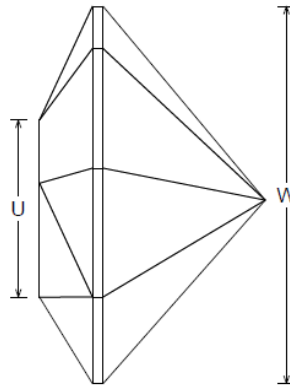
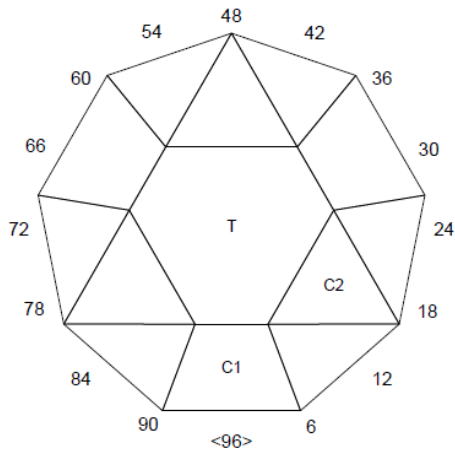
Meet C1, C2, C4

From "Twelve Easy Gemstone Faceting Designs – A guide for the beginner gemcutter" by Andrew Brown and Mark Oros which is available from <https://facetingdesigns.com/beginnerbook/>

NOVICE SECTION SECTION N.10.5 – MODIFIED STANDARD CUTS

MATERIAL – TOPAZ

FACETS: 31 – MEETS: 25 (15 CROWN + 10 PAVILION)



N 10-5 Brilliant 93

Andrew Brown - July 2022

Topaz

Angles for R.I. = 1.610

22 + 9 girdles = 31 facets

3-fold mirror-image symmetry

96 index

L/W = 1.025 T/W = 0.542 U/W = 0.470

P/W = 0.430 C/W = 0.140

Vol./W³ = 0.197

Pavilion

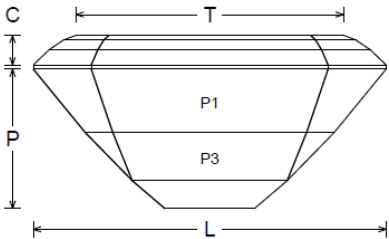
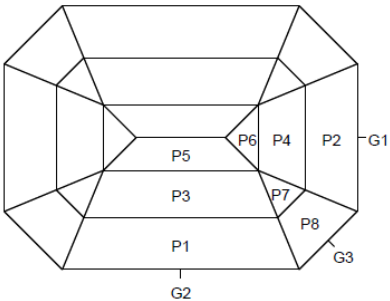
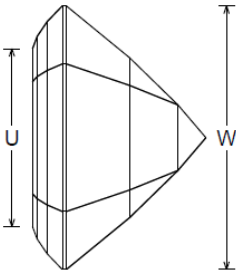
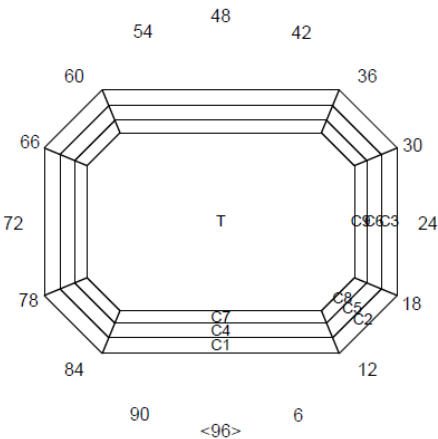
P1	41.50	96-11-21-32-43-53-64-75-85	Form PCP
G1	90.00	96-11-21-32-43-53-64-75-85	Set stone size. Establish girdle.

Crown

C1	31.50	96-11-21-32-43-53-64-75-85	Establish girdle width
C2	25.00	16-48-80	Meet G1, C1
T	0.00	Table	Meet C1, C2

From "Twelve Easy Gemstone Faceting Designs – A guide for the beginner gemcutter" by Andrew Brown and Mark Oros which is available from <https://facetingdesigns.com/beginnerbook/>

INTERMEDIATE SECTION I.9A.1 – STANDARD OBLONG STEPCUT WITH CUT CORNERS
MATERIAL – LABRADORITE AND OTHER TRANSPAENT FELDSPARS
FACETS: 53 – MEETS: 44 (24 CROWN + 20 PAVILION)



Interm. Section I9A.1-Rectangle Stepcut w/ Cut Corners

Williams, Evan: Australian Facet Designs (1994)
 Material: Labradorite
 Angles for R.I. = 1.560
 45 + 8 girdles = 53 facets
 2-fold mirror-image symmetry
 96 index
 $L/W = 1.339$ $T/W = 1.014$ $U/W = 0.675$
 $P/W = 0.529$ $C/W = 0.113$
 $Vol./W^3 = 0.408$

Pavilion

G1	90.00	24-72	size to length
G2	90.00	96-48	size to width
P1	50.66	96-48	position girdle
P2	50.66	24-72	level girdle
P3	45.69	96-48	cut as required
P4	45.69	24-72	meet P1, P2, P3
P5	40.46	96-48	cut as required
P6	40.46	24-72	meet P3, P4, P5
P7	45.69	12-36-60-84	meet P3, P4, P5, P6
P8	50.66	12-36-60-84	meet P1, P2, P3, P4
G3	90.00	12-36-60-84	level girdle

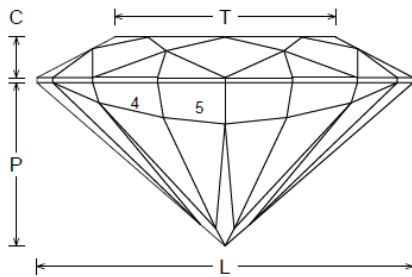
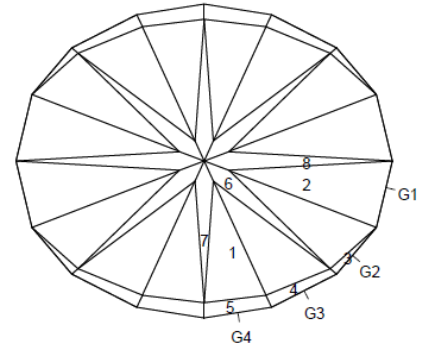
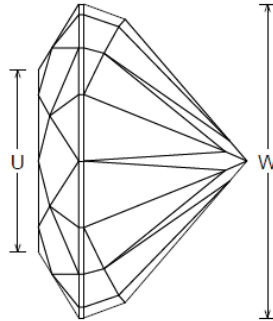
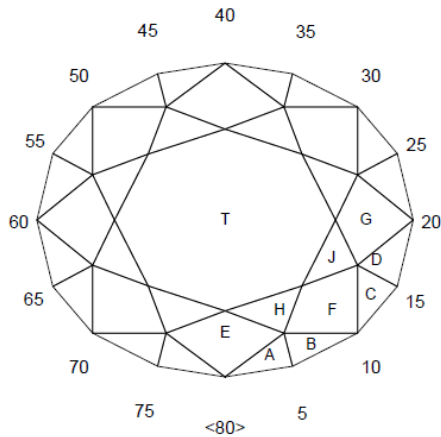
Crown

C1	43.90	96-48	set girdle width
C2	43.90	12-36-60-84	level girdle
C3	43.90	24-72	level girdle
C4	34.12	96-48	cut as required
C5	34.12	12-36-60-84	level 2nd tier
C6	34.12	24-72	level 2nd tier
C7	20.63	96-48	cut as required
C8	20.63	12-36-60-84	level 3rd tier
C9	20.63	24-72	level 3rd tier
T	0.00	Table	Table

INTERMEDIATE SECTION I.10.2 – MODIFIED STANDARD CUTS

MATERIAL – CORUNDUM

FACETS: 85 – MEETS: 67 (35 PAVILION + 32 CROWN)



I 10.2 OMNI Oval

by Robert W. Strickland

Material: MM Corundum

Angles for R.I. = 1.760

69 + 16 girdles = 85 facets

2-fold mirror-image symmetry

80 index

$L/W = 1.200$ $T/W = 0.704$ $U/W = 0.579$

$P/W = 0.520$ $C/W = 0.129$

$Vol./W^3 = 0.278$

Pavilion

1	42.00	03-08-14-26-32-37-43-48-54-66-72-77	establish TCP
2	42.10	17-23-57-63	meet TCP
G1	90.00	17-23-57-63	establish length
G2	90.00	11-29-51-69	meet 1-2-G1
G3	90.00	06-34-46-74	meet 1-1-G2
G4	90.00	02-38-42-78	meet 1-1-G3
3	67.65	11-29-51-69	level girdle
4	69.20	06-34-46-74	level girdle
5	70.00	02-38-42-78	level girdle
6	40.76	11-29-51-69	meet 1-1-3-4, establish final CP (FCP)
7	40.69	80-40	meet 1-1-5, FCP
8	40.92	20-60	meet 2-2-G1, FCP

Crown

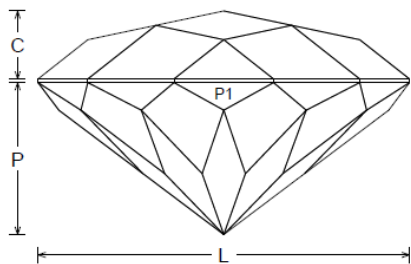
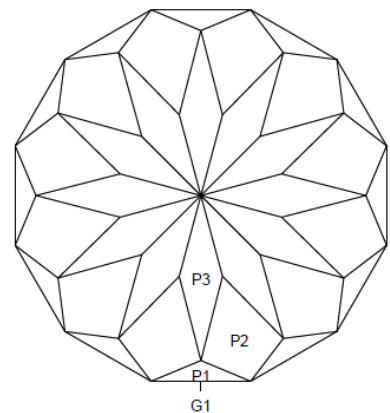
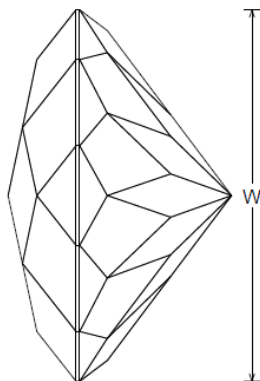
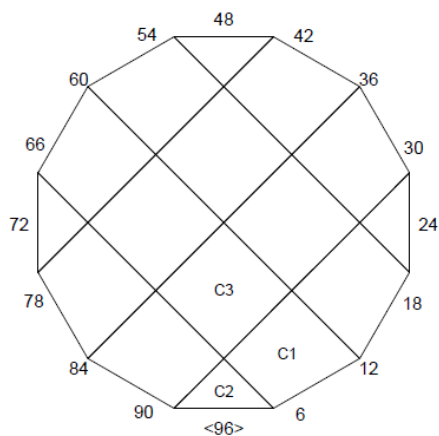
A	38.26	02-38-42-78	establish girdle thickness
B	38.82	06-34-46-74	level girdle
C	33.37	11-29-51-69	level girdle
D	33.62	17-23-57-63	level girdle
E	31.50	80-40	meet A-A at girdle
F	29.36	09-31-49-71	meet B-C at girdle
G	27.51	20-60	meet D-D at girdle
H	19.10	04-36-44-76	meet A-B-E-F
J	15.92	14-26-54-66	meet C-D-F-G
T	0.00	Table	

INTERMEDIATE SECTION I.11.3 – FANCY CUTS

MATERIAL – MAN MADE SPINEL

SPECIFIED SIZE 10MM – MEASURED ON THE SHORTEST AXIS OF OUTLINE SHAPE

FACETS:64 – MEETS: 46 (25 PAVILION + 21 CROWN)



I 11.3 - 12 Main Round Brilliant No 5

by E Williams (modified design and sequence by Hans E)

Mat: MM Spinel

Angles for R.I. = 1.720

52 + 12 girdles = 64 facets

4-fold mirror-image symmetry

96 index

L/W = 1.000

P/W = 0.409 C/W = 0.183

Vol./W³ = 0.199

Pavilion

G1	90.00	96-08-16-24-32-40-48-56-64-72-80-88	cut girdle outline
P1	53.04	96-08-16-24-32-40-48-56-64-72-80-88	meet G1, level girdle
P2	39.96	04-12-20-28-36-44-52-60-68-76-84-92	meet P1, G1, TCP
P3	37.00	96-08-16-24-32-40-48-56-64-72-80-88	meet P1, P2, PCP

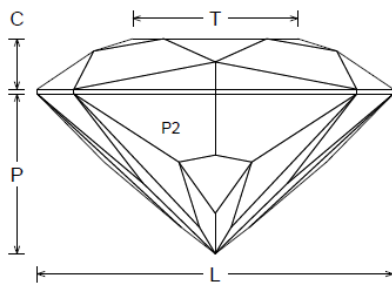
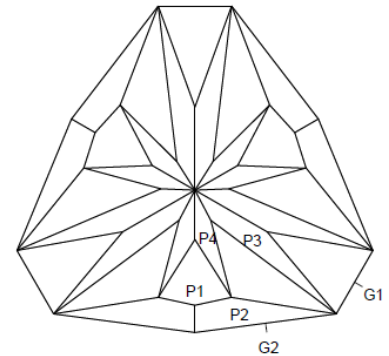
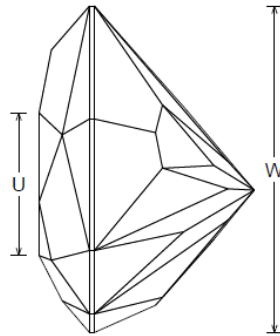
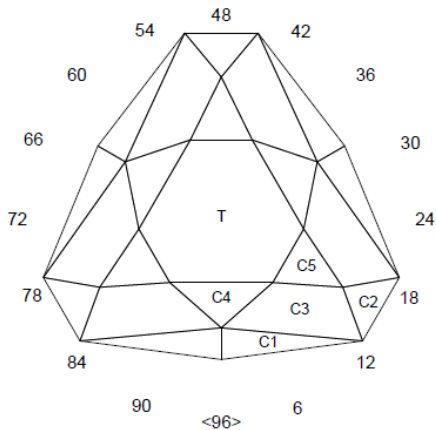
Crown

C1	30.00	08-16-32-40-56-64-80-88	establish girdle thickness
C2	38.27	96-24-48-72	meet G1, C1
C3	11.94	96-24-48-72	meet C1, C2

INTERMEDIATE SECTION I.10.4 – MODIFIED STANDARD CUTS

MATERIAL – TOPAZ

FACETS: 61 – MEETS: 37 (16 PAVILION + 21 CROWN)



I 10-4 Triangle Cushion Brilliant

by E Williams modified for Topaz RI by Hans E

Angles for R.I. = 1.610

52 + 9 girdles = 61 facets

3-fold mirror-image symmetry

96 index

$L/W = 1.089$ $T/W = 0.504$ $U/W = 0.437$

$P/W = 0.489$ $C/W = 0.154$

$Vol./W^3 = 0.231$

Pavilion

P1	41.52	96-10-16-22-32-42-48-54-64-74-80-86	establish TCP
G1	90.00	16-48-80	establish stone size, starting with #48
G2	90.00	02-30-34-62-66-94	meet G1, P1
P2	66.16	02-30-34-62-66-94	level girdle
P3	40.44	14-18-46-50-78-82	meet, G1, G2, P2, P1, new PCP
P4	39.50	02-30-34-62-66-94	meet PCP, P3, P2, P1

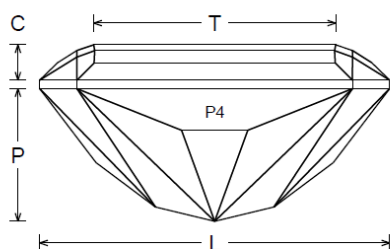
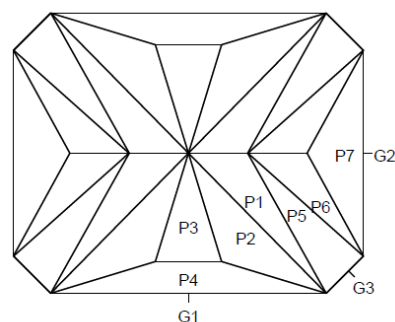
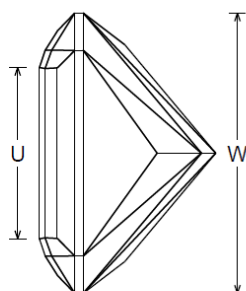
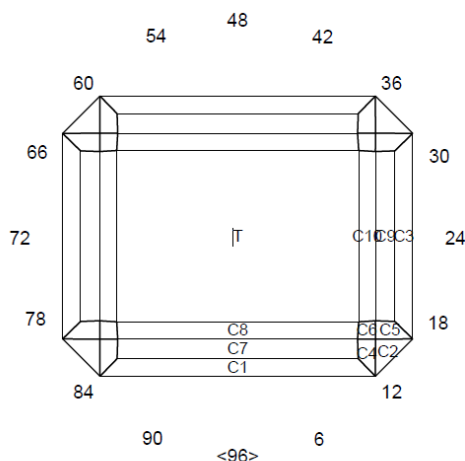
Crown

C1	40.94	02-30-34-62-66-94	establish girdle width
C2	40.94	16-48-80	meet C1, G1, G2
C3	34.00	03-29-35-61-67-93	meet C1, C2, G1, G2
C4	27.12	96-32-64	meet C1, C3
C5	11.07	16-48-80	meet C3, C2
T	0.00	Table	

OPEN SECTION O.10.1 – MODIFIED STANDARD CUTS

MATERIAL – CUBIC ZIRCONIA

FACETS: 59 – MEETS: 35 (11 PAVILION + 24 CROWN)



FVS-76 - Brilliant Rectangle

Fred Van Sant - July 1985

O.10.1 - Cubic Zirconia

FVS-76 - Gems & Minerals, July 85, p.34

Angles for R.I. = 2.150

51 + 8 girdles = 59 facets

2-fold mirror-image symmetry

96 index

L/W = 1.250 T/W = 0.864 U/W = 0.611

P/W = 0.473 C/W = 0.126

Vol./W3 = 0.380

Pavilion

G1	90.00	96-48
G2	90.00	24-72
P1	36.84	05-43-53-91
P2	38.90	03-45-51-93
P3	40.01	96-48
P4	52.66	96-48
G3	90.00	12-36-60-84
P5	37.42	12-36-60-84
P6	38.97	18-30-66-78
P7	52.66	24-72

Set Width

Set L/W to 1.25

Form PCP

Meet G1,P1 and PCP

Meet PCP

Meet G1,P1,P2

Meet G1,P1,P2,P4

Meet G1,P1,P2,P4,G3

Meet G2,G3,P5 and P5,P1,P1,P5

Meet G2,G3,P5,P6

Crown

C1	44.17	96-48
C2	41.38	12-36-60-84
C3	44.17	24-72
C4	35.67	08-40-56-88
C5	35.67	16-32-64-80
C6	27.00	12-36-60-84
C7	32.33	96-48
C8	18.69	96-48
C9	32.33	24-72
C10	18.69	24-72
T	0.00	Table

Set Girdle Width

Level Girdle

Level Girdle

Cut Slowly - Meet at C1,C2,Girdle

Cut Slowly - Meet at C2,C3,Girdle

Cut to meet corner of C2 - cut slowly

cut to half way along C3 C1 boundary when viewed from the top

Cut to meet C3 C7 C6 MP

Cut until C3 same width as C1

Cut to meet at corner of C6, C8

Meet at C6,C8,C10

Tiers re-ordered, Angles of C5 and C6 and P1, P3, P4 and P7 adjusted to compensate for rounded indexes.

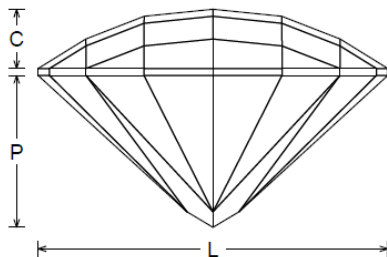
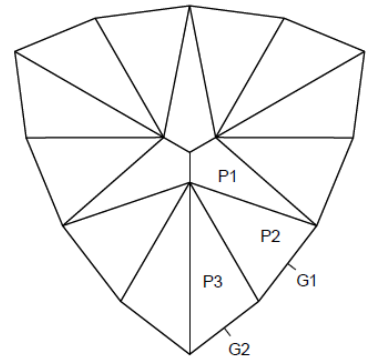
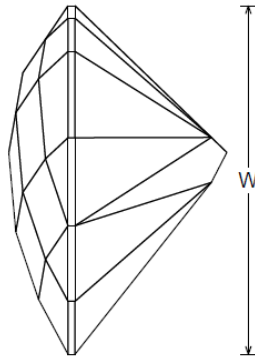
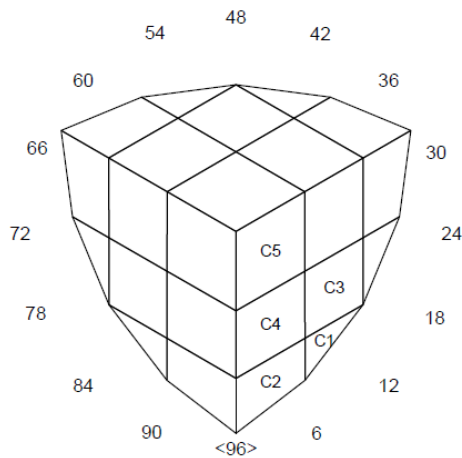
Re-authored for 96 index by G Perkins, 01-2023

OPEN SECTION O.11.2 – FANCY CUT

MATERIAL – CUBIC ZIRCONIA

SPECIFIED SIZE – 10MM (MEASURED ON SHORTEST AXIS)

FACETS: 42 – MEETS: 42 (15 PAVILLION + 27 CROWN)



O 11.2 - Cube Illusion Triangle

Strickland, Robert W: Texas FG Newsletter, Oct 95, p24

Angles for R.I. = 2.150

39 + 12 girdles = 51 facets

3-fold mirror-image symmetry

96 index

L/W = 1.003

P/W = 0.436 C/W = 0.170

Vol./W³ = 0.175

Pavilion

P1	46.00	16-48-80
P2	47.00	14-18-46-50-78-82
P3	45.00	10-22-42-54-74-86
G1	90.00	14-18-46-50-78-82
G2	90.00	10-22-42-54-74-86

Cut to PCP

Estimate Depth, Meet P1,P2

Meet P1,P2,P3

Meet P1,P2

Meet P2,P3, G1

Crown

C1	41.36	14-18-46-50-78-82
C2	34.04	10-22-42-54-74-86
C3	33.97	16-48-80
C4	24.16	11-21-43-53-75-85
C5	10.00	16-48-80

Set Girdle Thickness

Level Girdle

Meet Girdle, A

Meet A,C

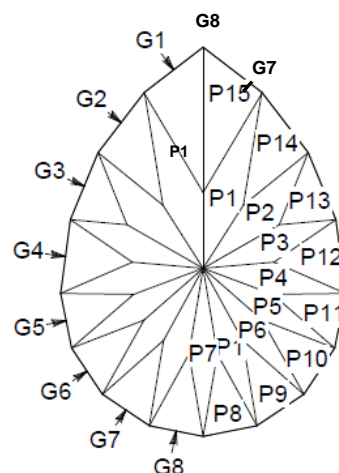
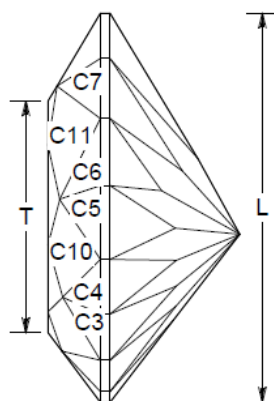
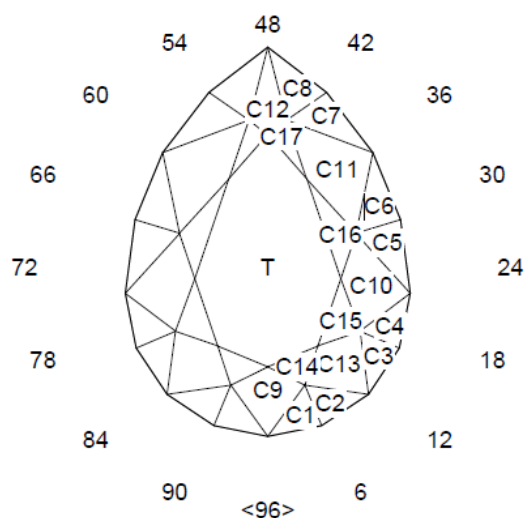
Meet C,D

OPEN SECTION O.10.3 – MODIFIED STANDARD CUTS

MATERIAL – TOPAZ

MINIMUM SIZE – 7MM

FACETS: 80 – MEETS: 50 (18 PAVILLION + 32 CROWN)



Pear No3

by Evan Williams with angles for Topaz

Angles for R.I. = 1.610

64 + 16 girdles = 80 facets

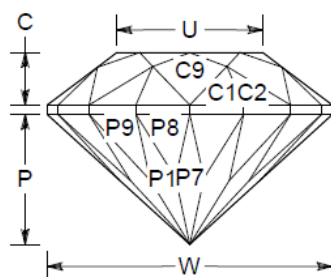
1-fold, mirror-image symmetry

96 index

L/W = 1.365 T/W = 0.814 U/W = 0.512

P/W = 0.455 C/W = 0.184

Vol./W³ = 0.301



PREFORM

PF2	34.52°	38-58	establish TCP (using extra facet)
PF1	38.11°	15-34-62-81	meet TCP
PF3	40.48°	30-66	meet TCP
PF4	41.15°	26-70	meet TCP
PF5	39.82°	21-75	meet TCP
PF6	36.88°	09-87	meet TCP
PF7	36.19°	03-93	meet TCP

PAVILION

G1	90.00°	38-58	level girdle
G2	90.00°	34-62	level girdle
G3	90.00°	30-66	level girdle
G4	90.00°	26-70	level girdle
G5	90.00°	21-75	level girdle
G6	90.00°	15-81	level girdle
G7	90.00°	09-87	level girdle
G8	90.00°	03-93	level girdle

PAVILION CONTINUED

P1	38.00°	06-36-60-90	establish PCP
P2	41.74°	31-65	meet PCP
P3	42.64°	28-68	meet PCP
P4	42.31°	24-72	meet PCP
P5	40.45°	18-78	meet PCP
P6	38.97°	12-84	meet PCP
P7	37.65°	96	meet PCP
P8	39.17°	03-93	meet P7, G8
P9	39.86°	09-87	meet P1, P8, G8
P10	41.14°	15-81	meet P6, P9, G7
P11	42.94°	21-75	meet P5, P10, G6
P12	44.25°	26-70	meet P4, P11, G5
P13	43.54°	30-66	meet P3, P12, G4
P14	41.04°	34-62	meet P2, P13, G3
P15	37.32°	38-58	meet P1, P14, G2

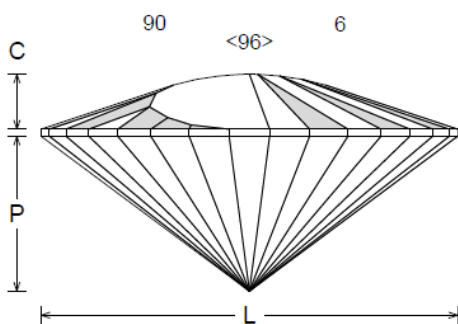
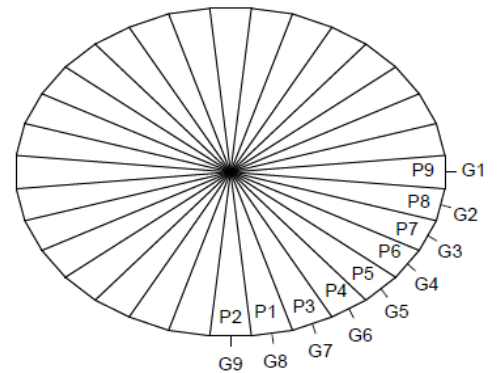
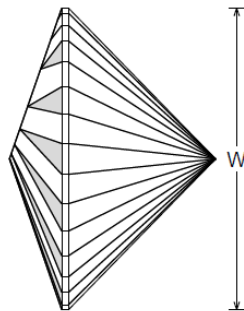
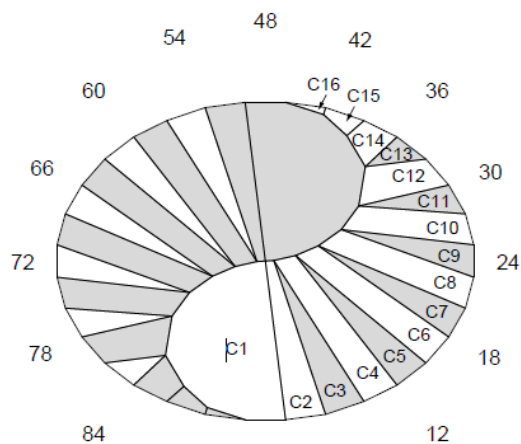
CROWN

C1	41.90°	03-93	establish girdle width
C2	41.90°	09-87	level girdle
C3	41.99°	15-81	level girdle
C4	42.09°	21-75	level girdle
C5	41.64°	26-70	level girdle
C6	41.39°	30-66	level girdle
C7	41.82°	34-62	level girdle
C8	43.20°	38-58	level girdle
C9	37.00°	96	meet G1, C1
C10	37.00°	24-72	meet G4, G5, C4, C5
C11	36.67°	32-64	meet G6, G7, C6, C7
C12	30.86°	48	meet G8, c8
C13	36.82°	12-84	meet G2, G3, C2, C3
C14	24.00°	06-90	C9, C1, C2, C13
C15	22.53°	19-77	meet C13, C3, C4, C10
C16	21.75°	29-67	meet C10, C5, C6, C11
C17	20.74°	35-61	meet C7, C8, C12
T	0.00°	Table	meet C9, C13, C10, C11, C12

OPEN SECTION O.11.4 – FANCY CUTS

MATERIAL – CITRINE

FACETS: 96 – MEETS: 78 (33 PAVILION + 45 CROWN)



Tiger Yin Yang Oval 154

Andrew Brown - 2023
 Meets: 78 (33 Pavillion + 45 Crown)
 Citrine
 Angles for R.I. = 1.540
 64 + 32 girdles = 96 facets
 2-fold radial symmetry
 96 index
 $L/W = 1.312$
 $P/W = 0.488$ $C/W = 0.174$
 $Vol./W^3 = 0.259$

Pavilion

P1	44.08	02-46-50-94
P2	44.31	96-48
P3	43.25	05-43-53-91
P4	42.42	07-41-55-89
P5	40.94	10-38-58-86
P6	39.50	13-35-61-83
P7	38.22	16-32-64-80
P8	37.03	20-28-68-76
P9	36.65	24-72
G1	90.00	24-72
G2	90.00	20-28-68-76
G3	90.00	16-32-64-80
G4	90.00	13-35-61-83
G5	90.00	10-38-58-86
G6	90.00	07-41-55-89
G7	90.00	05-43-53-91
G8	90.00	02-46-50-94
G9	90.00	96-48

Form PCP

Meet PCP

Meet PCP

Meet PCP

Meet PCP

Meet PCP

Meet PCP

Meet PCP

Meet PCP

Set stone size. Establish a level girdle

Meet G1, P8, P9. Maintain a level girdle

Meet G2, P7, P8. Maintain a level girdle

Meet G3, P6, P7. Maintain a level girdle

Meet G4, P5, P6. Maintain a level girdle

Meet G5, P4, P5. Maintain a level girdle

Meet G6, P3, P4. Maintain a level girdle

Meet G7, P2, P3. Maintain a level girdle

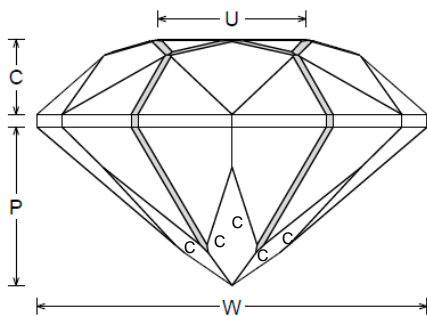
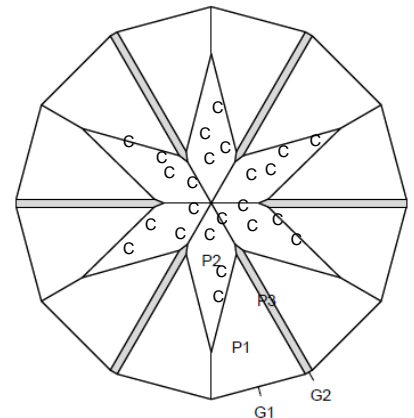
Meet G8, P1, P2. Maintain a level girdle

Crown

C1	19.14	96-48	Establish girdle width
C2	19.00	02-50	Meet G8, G9, C1. Maintain girdle width
C3	18.67	05-53	Meet G7, G8, C2. Maintain girdle width
C4	18.27	07-55	Meet G6, G7, C3. Maintain girdle width
C5	17.91	10-58	Meet G5, G6, C4. Maintain girdle width
C6	17.49	13-61	Meet G4, G5, C5. Maintain girdle width
C7	17.45	16-64	Meet G3, G4, C6. Maintain girdle width
C8	17.48	20-68	Meet G2, G3, C7. Maintain girdle width
C9	18.45	24-72	Meet G1, G2, C8. Maintain girdle width
C10	19.62	28-76	Meet G1, G2, C9. Maintain girdle width
C11	22.15	32-80	Meet G2, G3, C10. Maintain girdle width
C12	23.84	35-83	Meet G3, G4, C11. Maintain girdle width
C13	27.50	38-86	Meet G4, G5, C12. Maintain girdle width
C14	28.75	41-89	Meet G5, G6, C13. Maintain girdle width
C15	30.33	43-91	Meet G6, G7, C14. Maintain girdle width
C16	30.65	46-94	Meet G7, G8, C15. Maintain girdle width

Frost highlighted facets

FACETS: 91 – MEETS: 55 (19 PAVILION + 36 CROWN)


$$\text{Vol./}W3 = 0.218$$

21