

Cutting and Polishing

- There are four methods of preparing stones that bring out their beauty:
- tumbling
- carving,
- cabbing (cabochon)
- faceting.

Tumbling

- Tumbling uses an abrasive to polish stones in a rotating or vibrating tub.
- Successively finer abrasives are used to remove scratches left by the previous abrasive until the scratches are so minute that the stone appear brightly polished.

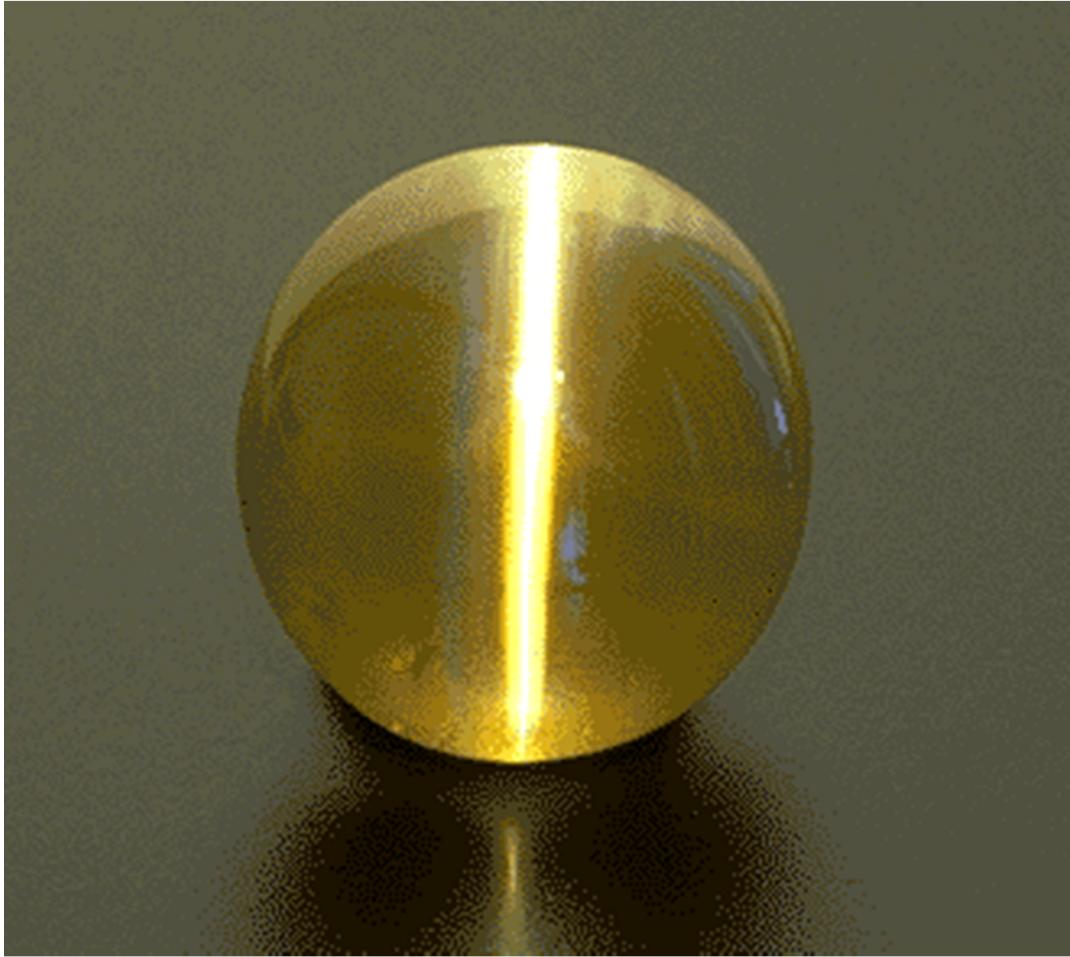
Tumbling Equipment



Tumbled Stones



Cabochons



Cabochons Bring Out Beauty

- By polishing and rounding the stone to create a pleasing finish and shape cabochons enhance the beauty of a stone.
- The examples of a star shape called asterism & a thin band of light called catseye are both best seen in cabochons.
- Cabochons are also relatively easy to make

Carving



Cameos are often carved from shells





Carved Figures: jade

Decorative carving is appreciated everywhere





Stone Carving (Persepolis)

Intaglio is an inset carving

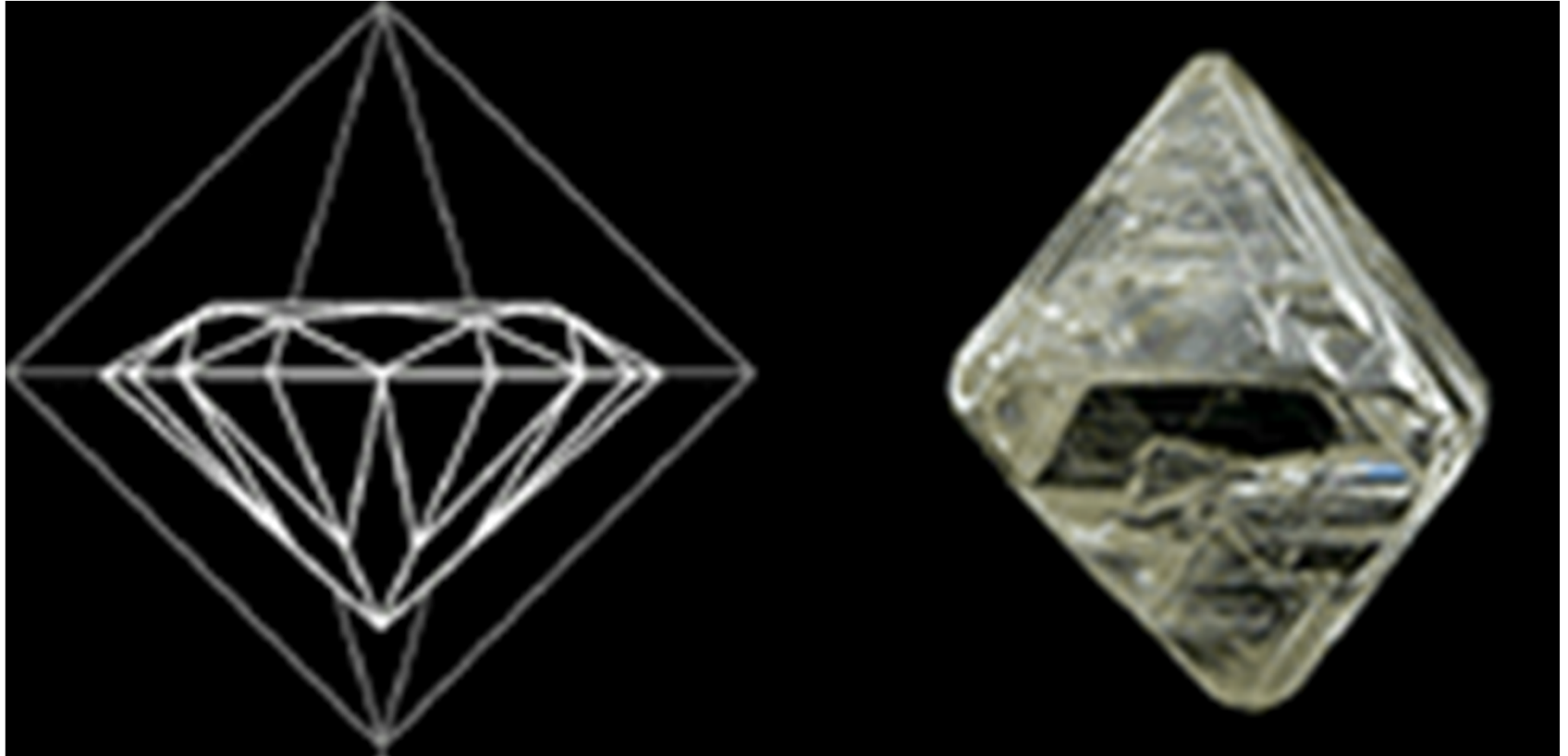








Faceting: seeing the beauty inside



Faceting Makes Flat Surfaces

- Faceting creates a stone with brightly polished faces that reflect light.
- The stone is cut into a pleasing symmetrical shape
- The way in which the stone is cut allows light into a stone, like opening a window
- The light can then make the stone brilliant and expose the “fire” inside the stone

Faceting (cont...)

- Faceting can be done precisely by computer controlled machine
- Simple faceting is done using hand powered tools.
- Complex cuts are common today
- Older gems were cut more simply

Cutting Starts with Cleaving



"I've changed my mind, Edgar
go ahead and buy the facet cutter!"

by Bill Mittlebeeler via Dust & Grit 2/00
via Golden Spike News 4/00

Hobbyist's Lap Wheel or Facet Cutter



Cleaving (cont...)



Sometime a Stone is Sawed



A Diamond Charged Disk

- Only diamond cuts diamond
- A disk charged with diamond dust acts as a saw blade
- You could also put diamond on a wire or a flat wheel called a lap for polishing

Then comes Bruting

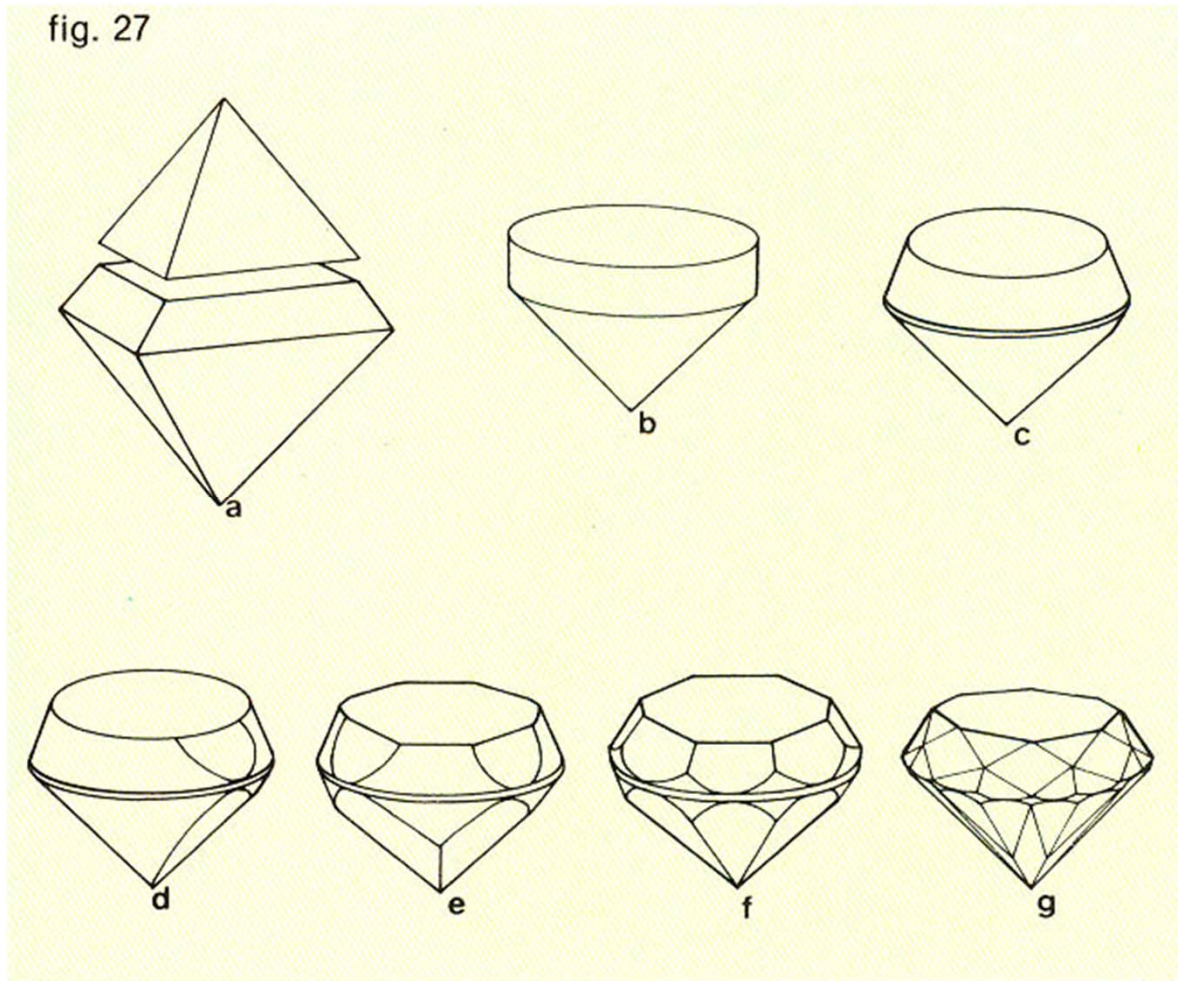


Only a Diamond Brutes a Diamond



Steps in faceting

fig. 27



After Bruting Faceting Starts



Facets are polished on a Lap

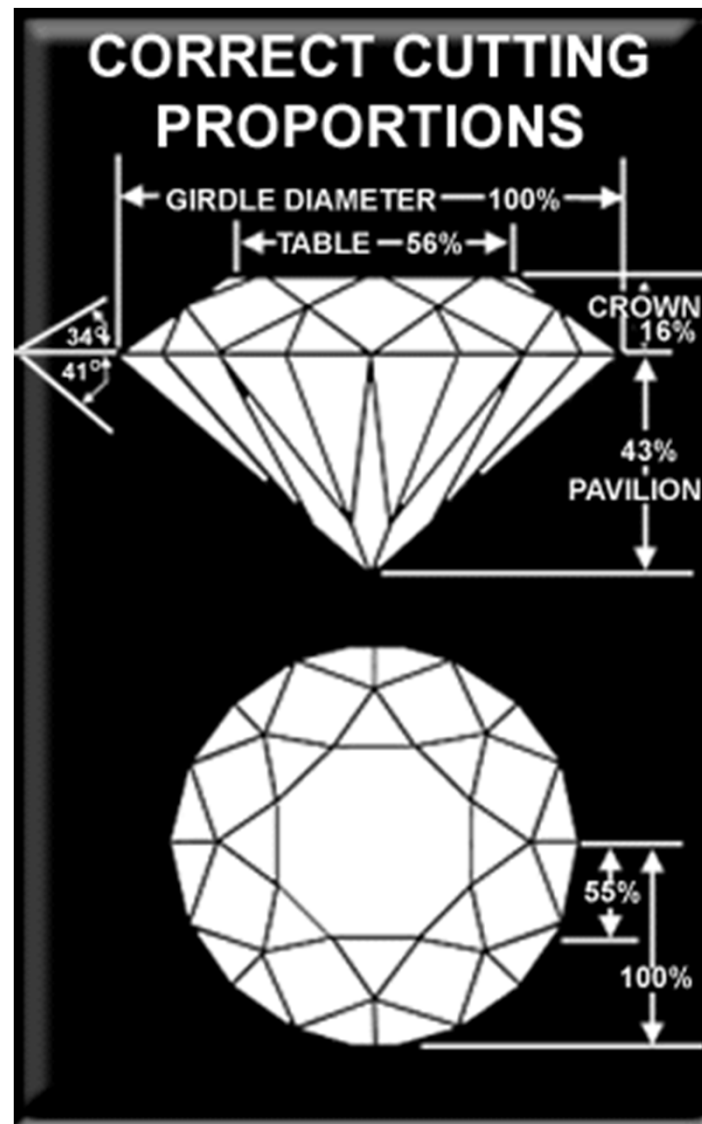




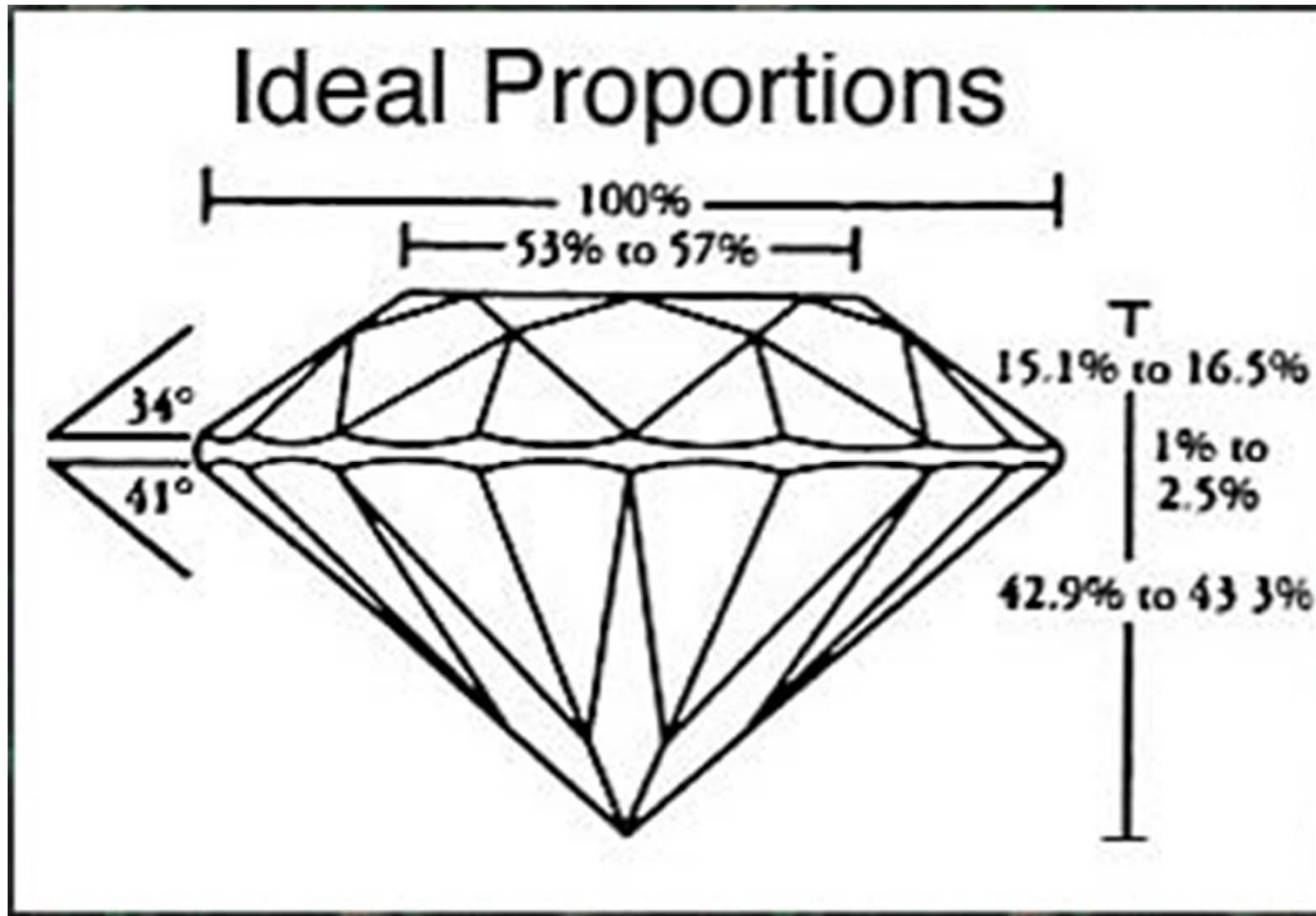
The lap holder



An Ideal Cut Diamond

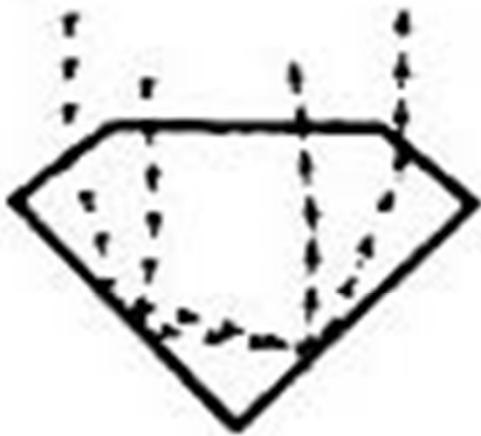


Ideal means the best proportions to bring out the stones color and fire

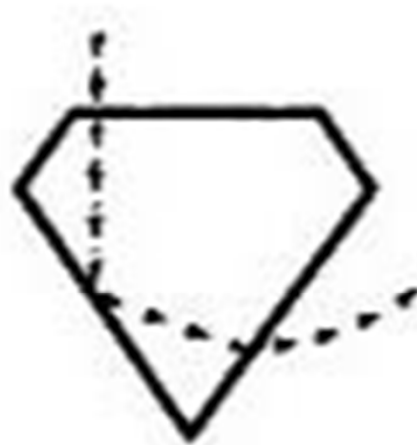


Examples of how light passes through a Diamond

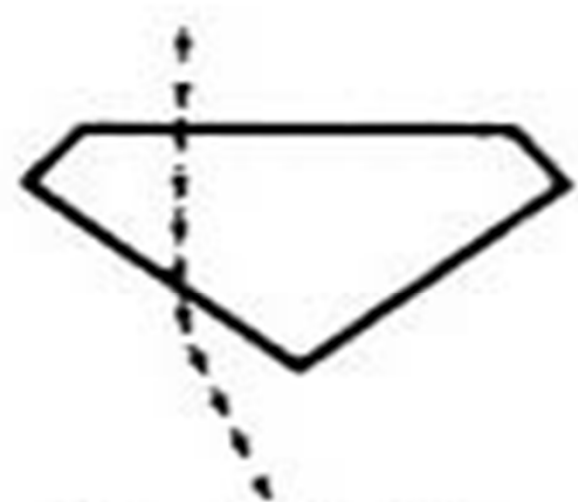
- Light coming in from the top should go out from the top. Giving the stone greater Brilliance



Fine Make

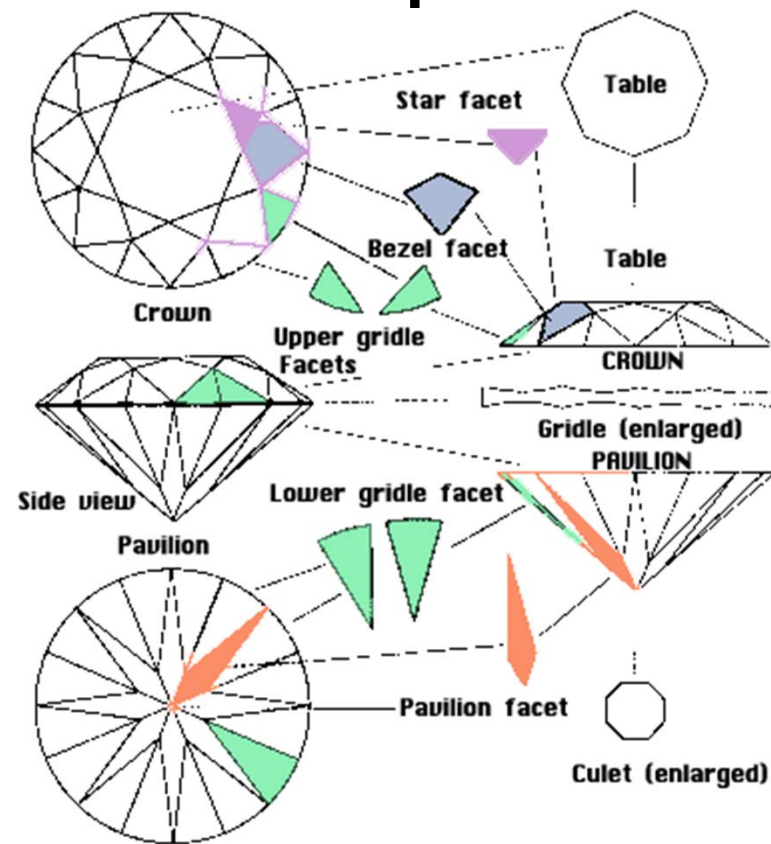


Too Deep



Too Shallow

Facets are named by there shape and position

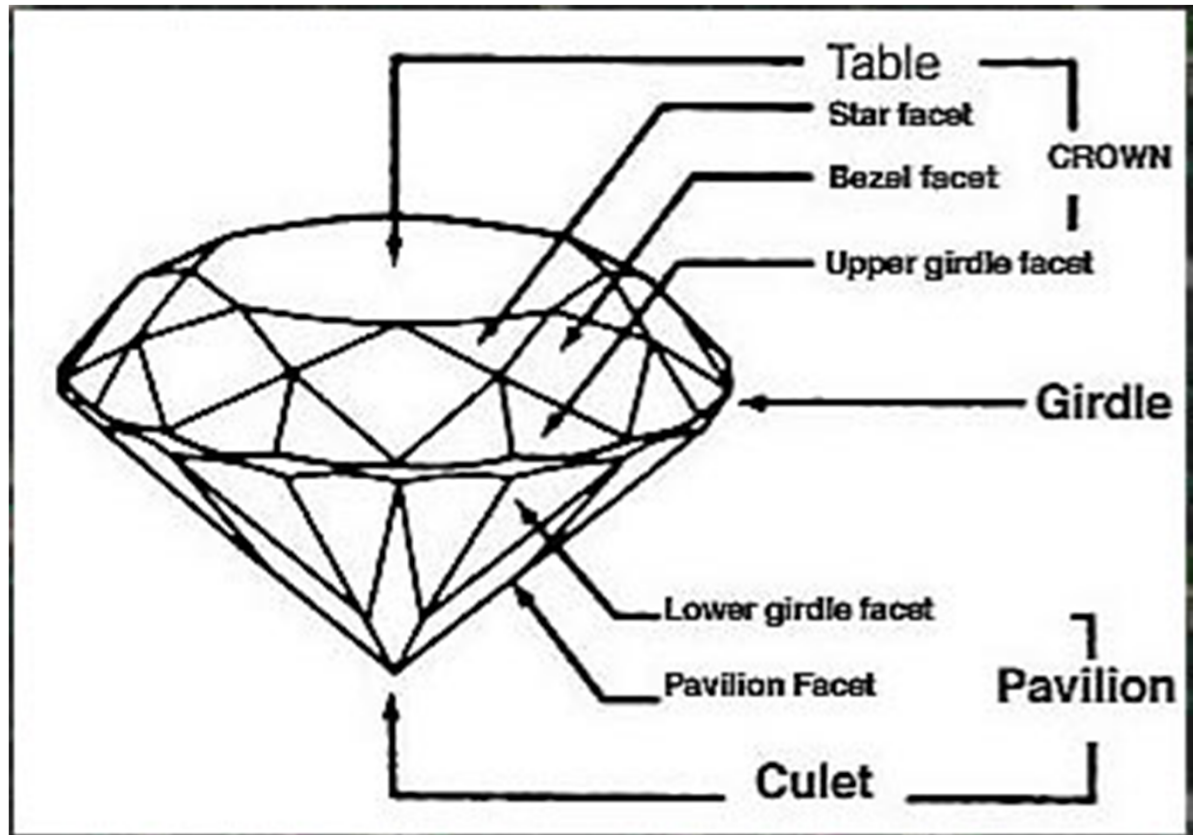


The facets and parts of a brilliant cut diamond....

Ideal Cut facets

Total Amount Of Facets 58

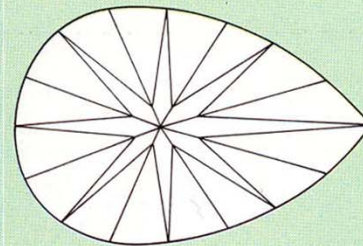
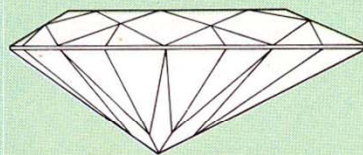
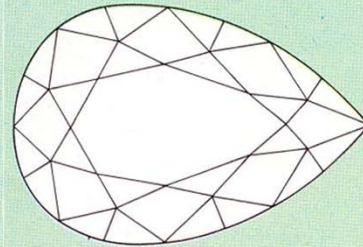
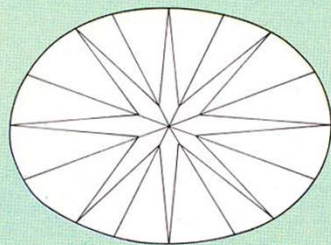
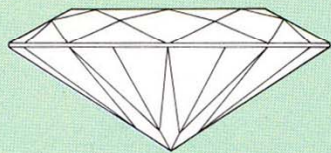
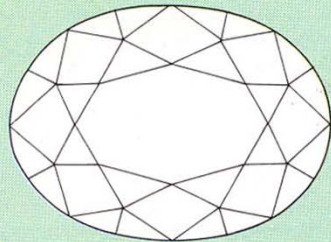
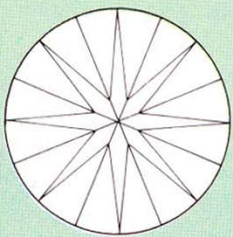
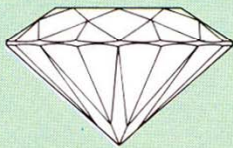
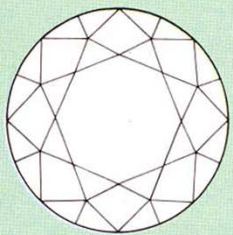
- Table 1
- Star Facets 8
- Bezel Or Kite Facets 8
- Upper Girdle Facets 16
- Lower Girdle Facets 16
- Pavilion Mains 8
- Culet 1



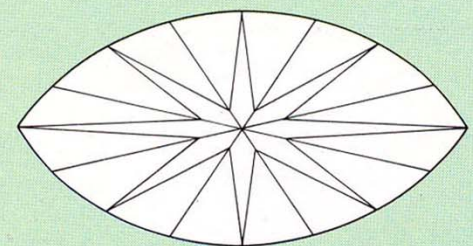
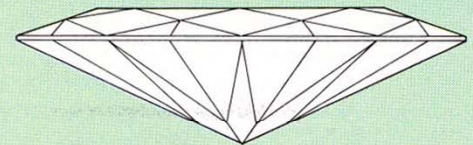
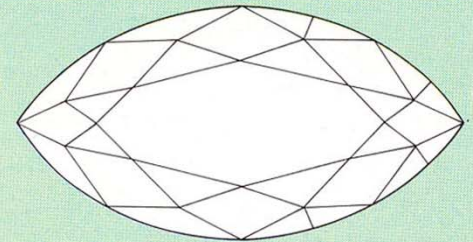
Types of Cuts

fig. 28

Brilliant and related fancy cuts



pear



marquise

Types of Cuts (cont...)

fig. 29

Step or trap cuts

