

ROOF FRAMING GEOMETRY & TRIGONOMETRY FOR POLYGONS

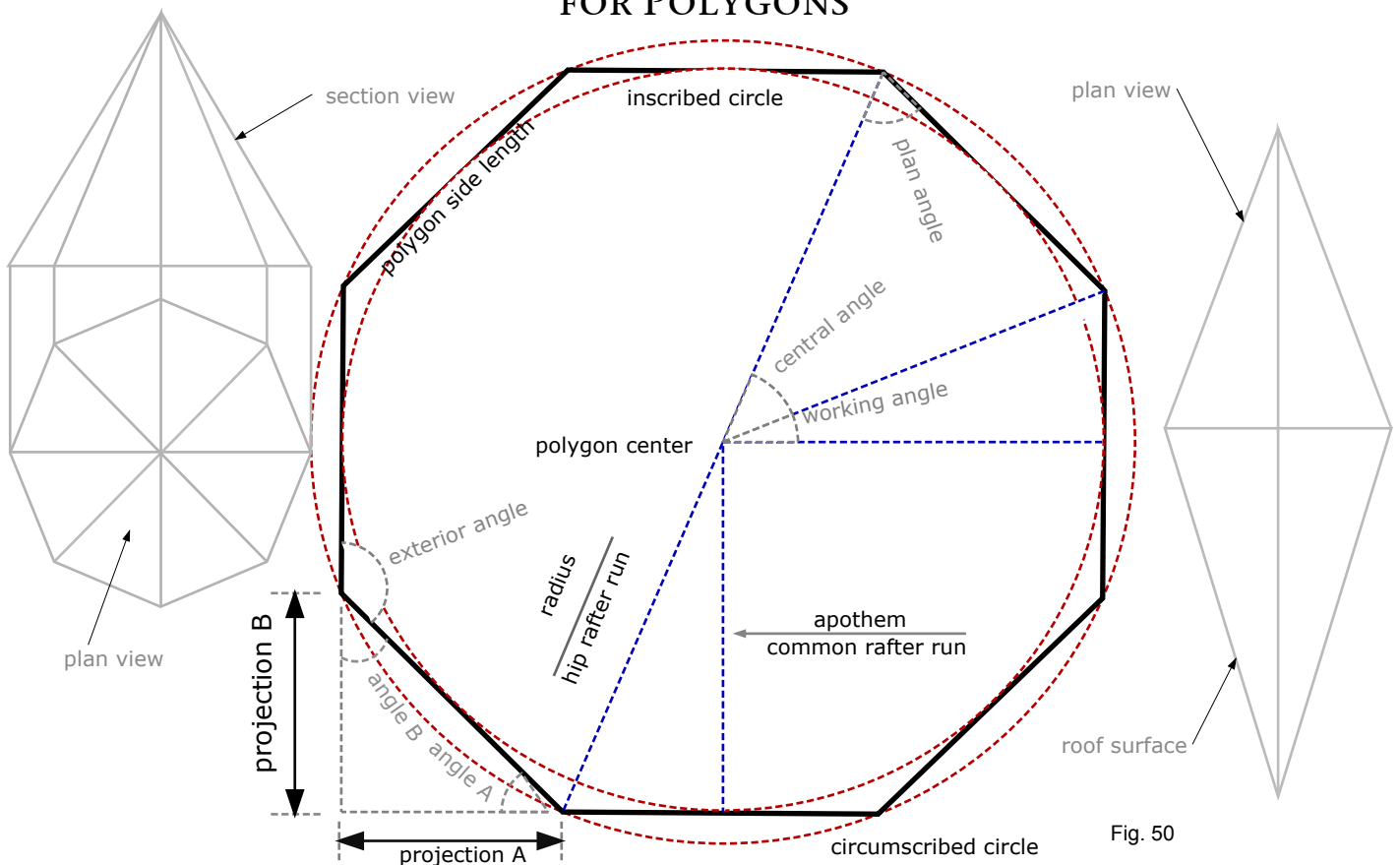


Fig. 50

Polygons in Mathematical Context	Polygons in Carpenters Mathematical Context
<p>central angle = $(\pi \times 2) \div N$ working angle = $(\pi \times 2) \div (N \times 2)$ plan angle = $(\pi - \text{central angle}) \div 2$ exterior angle = plan angle $\times 2$</p> <p>S is the length of any side of the polygon N is the number of sides R is the Radius of the circumscribed circle apothem is the Radius of the inscribed circle pi is PI, approximately 3.14159</p> <p>pi, in mathematics, is the ratio of the circumference of a circle to its diameter pi = Circumference \div Diameter</p> <p>apothem = $R \times \cos(\pi \div N)$ apothem = $S \div (2 \times \tan(\pi \div N))$ Radius = $S \div (2 \times \sin(\pi \div N))$ Radius = $0.5 \times S \times \csc(\pi \div N)$ S = $2 \times \text{Radius} \times \sin(\pi \div N)$ S = apothem $\times (\tan(((\pi \times 2) \div (N \times 2)))) \times 2$ S = $R \times \sin(\text{central angle} \div 2) \times 2$ S = $R \times \sin(\text{working angle}) \times 2$</p>	<p>central angle = $360 \div N$ working angle = $360 \div (N \times 2)$ plan angle = $(180 - \text{central angle}) \div 2$ exterior angle = plan angle $\times 2$ projection angle A = $360 \div N$ projection angle B = $90 - \text{projection angle a}$</p> <p>apothem = $R \times \cos(180 \div N)$ Radius = $S \div (2 \times \sin(180 \div N))$ S = $2 \times \text{Radius} \times \sin(180 \div N)$ Projection A = $S \div \cos(\text{angle A})$ Projection B = $S \div \cos(\text{angle B})$</p> <p>apothem multiplier = $\sec(((\pi \times 2) \div (N \times 2)))$ working angle multiplier = $\tan(360 \div (N \times 2)) \times 2$ rafter multiplier = $1 \div \cos \text{pitch angle}$ hip multiplier = $1 \div \cos \text{hip angle}$ rise multiplier = $1 \div \tan \text{pitch angle}$</p> <p>Hip Rafter Run = Common Rafter Run \times apothem multiplier Common Rafter Run = S \div working angle multiplier S = Common Rafter Run \times working angle multiplier Common Rafter Run = apothem Common Rafter Span = Common Rafter Run $\times 2$ Hip Rafter Run = Radius</p>

What Is A Polygon Roof

What is a Polygon?

A closed plane figure made up of several line segments that are joined together. The sides do not cross each other. Exactly two sides meet at every vertex. A regular polygon is a polygon whose sides are all the same length, and whose angles are all the same. The sum of the interior angles of a polygon with n sides, where n is 3 or more, is 360° degrees.

In a circle of radius r , the length of the chord that subtends a central angle x is

$$2 \times r \times \sin(x \div 2)$$

What is a Polygon Roof?

Three or more equal length walls that are joined together. The equal length walls do not cross each other. Exactly two sides meet at every vertex. The polygonal hip rafters bisect each vertex of the polygon. When the polygon hip rafters bisect the corner vertices the roof rafter pitch is the same for both sides of the wall. The radius of the polygon is the run of the polygonal hip rafters and the chord is the length of the sides of the polygon.

In a polygonal roof with an hip rafter run equal to the radius, the Side Wall Length is

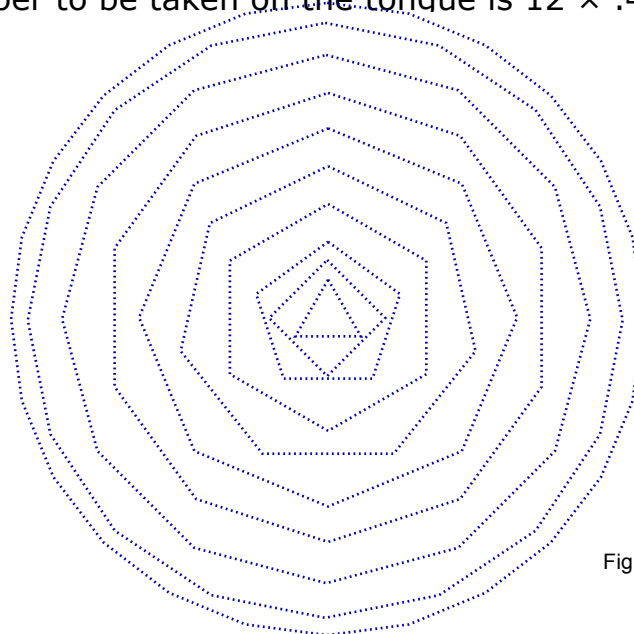
$$2 \times \text{hip rafter run} \times \sin((360^\circ \div \text{Number of Sides}) \div 2)$$

What is a Polygon Roof Miter Angle?

The polygon roof miter angle is the tangent of the polygon central angle divided by two. The central angle for a Octagon roof is 45° . One half of 45° is 22.5° . The tangent of $22.5^\circ = .41421$

Laying out an Octagon using a framing square we would take 12" on the blade and the number to be taken on the tongue is $12 \times .41421$, which is 4.97" , or

Polygons have 3 or more sides. Polygon roofs range from 3 - 24 sides.



Trigon - 3 sides
Square - 4 sides
Pentagon - 5 sides
Hexagon - 6 sides
Heptagon - 7 sides
Octagon - 8 sides
Nonagon - 9 sides
Decagon - 10 sides
Dodecagon - 12 sides
Hexadecagon - 16 sides
Icositetragon - 24 sides

Fig. 50-A

Polygon Trigonometry Identities

Let the number of sides = N

central angle $\theta = 360^\circ \div N$

working angle $\theta = 360^\circ \div (N \times 2)$

plan angle $\theta = (180^\circ - \text{central angle}) \div 2$

exterior angle $\theta = 180^\circ - \text{central angle}$

apothem multiplier = $\secant(360^\circ \div (N \times 2))$

side wall multiplier = $\tan((360^\circ \div (N \times 2)) \times 2)$

sine side wall multiplier = $(1 \div \sin(360^\circ \div (N \times 2))) \div 2$

projection angle a $\theta = 360^\circ \div N$

projection angle b $\theta = 90^\circ - \text{projection angle a}$

miter angle = $12.0 \times \tan(\text{working angle})$

inscribed circle multiplier = $12.0 \times \tan(\text{working angle})$

circumscribed circle multiplier = $12.0 \times \sin(\text{working angle})$

side wall length = $2 \times \text{hip rafter run} \times \sin((360^\circ \div N) \div 2)$

side wall length = $\text{apothem} \times \text{side wall multiplier}$

side wall length = $\text{apothem} \times \tan(180^\circ \div N) \times 2$

side wall length = $(\text{span} \times \text{inscribed circle multiplier}) \div 12$ (if N is even)

side wall length = $(\text{radius} \times \text{circumscribed circle multiplier}) \div 12$ (if N is even)

side wall length = $(\text{radius} \times \text{inscribed circle multiplier}) \div 12$ (if N is odd)

apothem = $\text{radius} \div \text{apothem multiplier}$

apothem = $\text{radius} \times \cos(180^\circ \div N)$

apothem = $(\text{side wall length} \div 2) \div \tan(180^\circ \div N) \times 2$

radius = $\text{apothem} \times \text{apothem multiplier}$

radius = $\text{side wall length} \times \text{sine side wall multiplier}$

radius = $\text{apothem} \div \cos(180^\circ \div N)$

hip run per foot = $12.0 \div \cos(\text{working angle})$

hip run per foot = $12.0 \div \cos(180^\circ \div N)$

common rafter run per foot = $12.0 \div \cos(\text{pitch angle})$

jack rafter multiplier = $\tan(\text{plan angle})$

jack rafter multiplier = $\cotangent(\text{working angle})$

jack rafter multiplier = $1 \div \tan(\text{working angle})$

jack rafter length difference = $(\text{jack rafter multiplier} \times \text{O.C.} \times \text{common rafter length per foot}) \div 12$

jack rafter per inch multiplier = $(\tan(\text{plan angle}) \times \text{rafter length per foot}) \div 12$

adjacent run = $12 \div \tan(\text{working angle})$

unit rise = $12 \times \tan(\text{pitch angle})$

CMC irregular pitch angle = $\arctan(\text{unit rise} \div \text{adjacent})$

How To Use The Polygon Rafter Tables

Each **Polygon Rafter Table** has the basic information that will help figure out all of the polygon roof pitch angles and polygon rafter lengths from a zero pitched roof upto a roof pitch of 24 & 12. The polygon rafter tables are referenced by the number of sides in the polygon with the name of the polygon given if it has less than 16 sides. All polygon roofs with more than 16 sides are referenced as N - gon. With N being the number of sides in the polygon. At the bottom of each **Polygon Rafter Table** there are framing square usage examples. Referr to the **Framing Square Usage** page on how to use the framing square information show on each page.

Top Of Page:

Number Of Sides of Polygon

central angle of the polygon ($360^\circ \div N$)

working angle of the polygon ($180^\circ \div N$)

plan angle of the polygon ($180^\circ - \text{central angle}$) $\div 2$

miter angle is the exterior plate line bisect miter and angle. Use the miter angle and 12" on the framing square to mark the bisect angle. Or set your speed square to the degrees of the miter to mark the bisect angle.

hip run per foot is the diagonal length of a triangle formed by the miter angle and 12". You would use the pitch of the polygon roof on the tongue of the framing square and the hip run per foot on the blade of the framing square to layout the plumb and level cuts for the polygon hip rafter.

apothem multiplier can be used to find the hip rafter run of the polygon if you know the common rafter run. The apothem multiplier \times common rafter run will give you the length of the hip rafter run. Or if you already know the hip rafter run you can divide the hip rafter run by the apothem multiplier to calculate the length of the common rafter run.

side wall multiplier can be used to calculate the length of the polygon roof side walls. The side wall multiplier \times the common rafter run gives the length of the polygon side walls.

Polygon Rafter Table

Column 1: Shows the **Pitch** of the roof from 0 to 24

Column 2: Shows the **Roof Angles**. The first column is the **Roof Pitch Angle** and the next column is the **Hip Pitch Angle** in degrees.

Column 3: Shows the **Frieze Block Angles**. The first column is the plumb **Angle** and the next column is the **Saw Bevel** angle to cut frieze blocks that butt into the hip rafters. Use your speed square to mark off the plumb angle.

Column 4: **Hip Rafters**

Side Cut Angle column is the hip rafter side cut angle in degrees.

Backing Angle column is the hip rafter backing angle in degrees. Do not back out the hip rafter if you drop the hip rafter seat cut. Use one method or the other but do not use both.

Hip Drop 2x column is the amount to drop-reduce the height of the hip rafter seat cut to plane with the common rafters at the plate line intersection. This dimension is for 2x hip rafter material. (1.5")

Hip Drop 4x is the amount to drop-reduce the height of the hip rafter seat cut to plane with the common rafters at the plate line intersection. This dimension is for 4x hip rafter material. (3.5")

Length Per-FT column is the length of the hip rafter per one foot of run. You can use this dimension on the blade of the framing square to mark off the hip rafter side cut angle and backing angle. See the Framing Square Usage sheet for the dimension to use on the tongue of the framing square.

How To Use The Polygon Rafter Tables Continued

Column 5: **Jack Rafters**

Side Cut Angle column is the jack rafter side cut angle in degrees. Use your speed square to mark off this angle on top of the jack rafter to cut the cheek cut of the jack rafter.

First 12" column is the length of the jack rafter from plumb to plumb of the long point of the jack rafter spaced 12" from the corner where the hip rafter sits. The length of the jack rafter has been calculated to set 12" and head of the 12" layout mark. The length of the jack rafter has been reduced for 2x hip rafter material.

First 16" column is the length of the jack rafter from plumb to plumb of the long point of the jack rafter spaced 16" from the corner where the hip rafter sits. The length of the jack rafter has been calculated to set 16" and head of the 16" layout mark. The length of the jack rafter has been reduced for 2x hip rafter material.

First 24" column is the length of the jack rafter from plumb to plumb of the long point of the jack rafter spaced 24" from the corner where the hip rafter sits. The length of the jack rafter has been calculated to set 24" and head of the 24" layout mark. The length of the jack rafter has been reduced for 2x hip rafter material.

Spaced 12" column is the jack rafter length difference for 12 inch on center spacing. All jack rafters will increment by this dimension when spaced 12" O.C. at the plate line.

Spaced 16" column is the jack rafter length difference for 16 inch on center spacing. All jack rafters will increment by this dimension when spaced 16" O.C. at the plate line.

Spaced 24" column is the jack rafter length difference for 24 inch on center spacing. All jack rafters will increment by this dimension when spaced 24" O.C. at the plate line.

Multiplier column can be used to calculate the length of the jack rafter for any spacing. The multiplier times the desired spacing will give you the jack rafter length. As an example, if you want to place a jack rafter 24" from your king common rafter you would use 24 × multiplier for the jack rafter length difference from your king common rafter length.

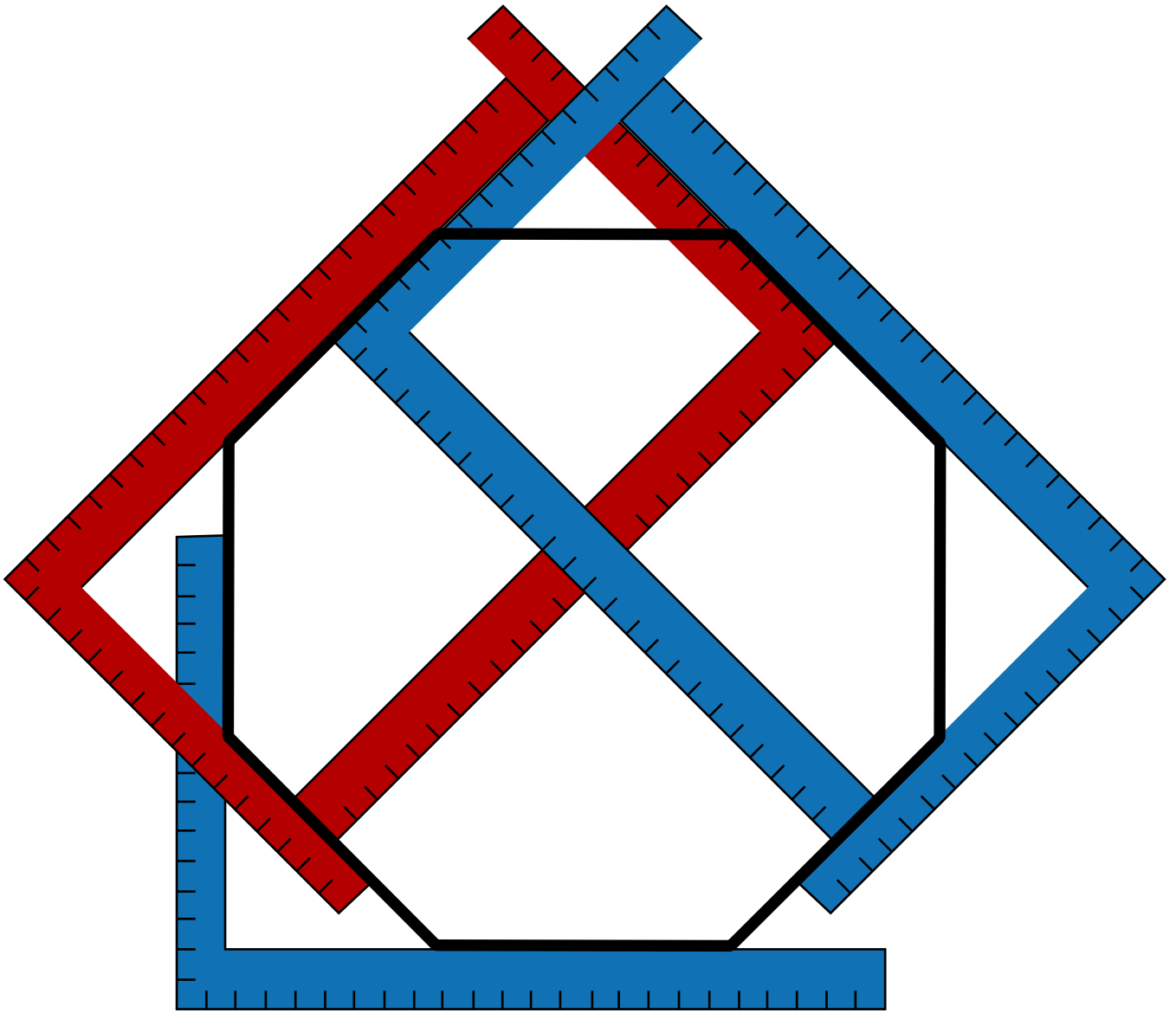
Octagon Example

$$8:12 \text{ -- } 24 \times 2.90152 = 69.66" = 69 \frac{5}{8}"$$

Hexagon Example

$$6:12 \text{ -- } 24 \times 1.93649 = 46.47" = 46 \frac{1}{2}"$$

Polygon Framing Square Usage



Framing Square Usage For Plumb & Level Cuts

P = Roof Pitch

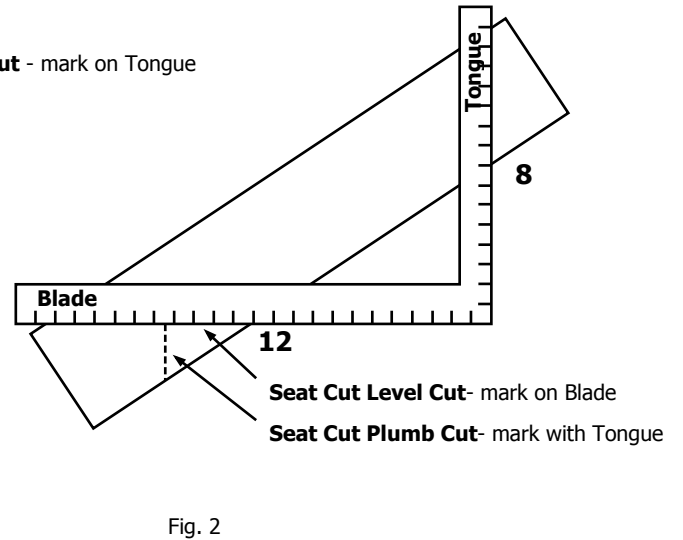
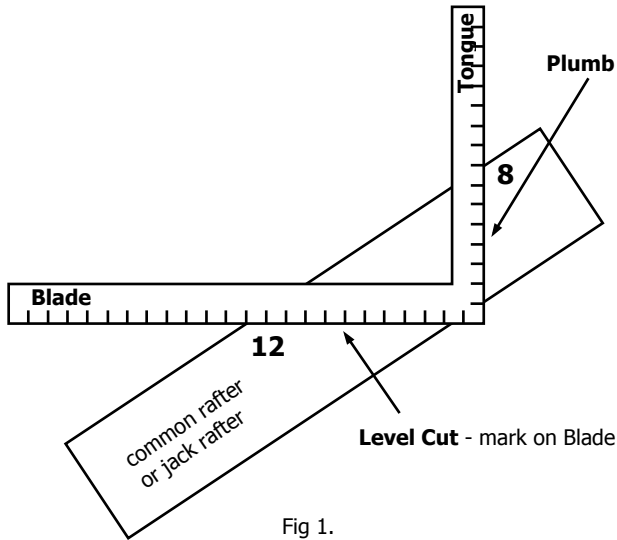
HR = Hip Run Per Foot

Tongue (P) Blade (12) for Rafter Plumb Cut Angle. See Fig 1.

SS Angle is the roof pitch angle in degrees. Set your speed square at the SS Angle to mark plumb cut lines.

Tongue (12) Blade (P) for Rafter Level Cut Angle. See Fig 2.

SS Angle is the roof pitch level cut angle in degrees. Set your speed square at the SS Angle to mark level cut lines.

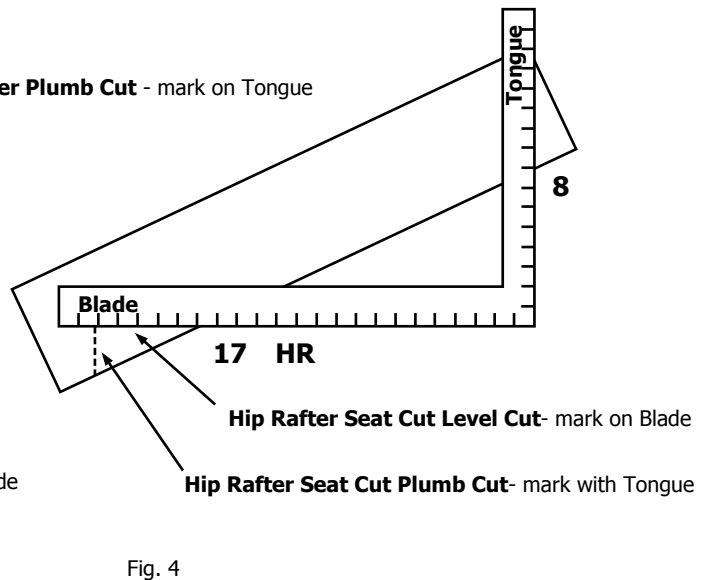
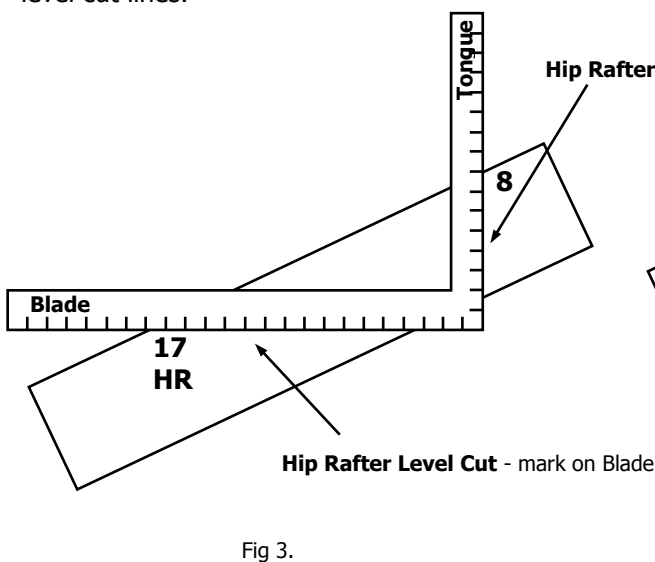


Tongue (P) Blade (HR) for Hip Rafter Plumb Cut Angle. See Fig 3.

SS Angle is the hip pitch angle in degrees. Set your speed square at the SS Angle to mark hip rafter plumb cut lines.

Tongue (HR) Blade (P) for Hip Rafter Level Cut Angle. See Fig 4.

SS Angle is the hip pitch level cut angle in degrees. Set your speed square at the SS Angle to mark hip rafter level cut lines.



Framing Square Usage For Octagons

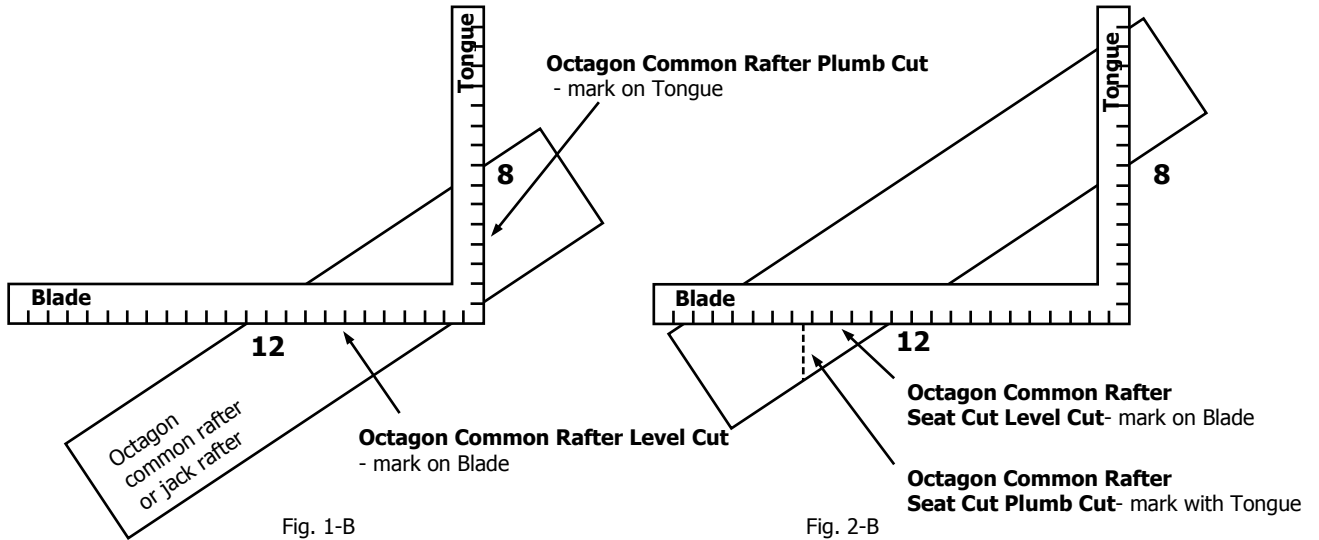
P = Roof Pitch

Tongue (P) Blade (12) for Octagon Common Rafter Plumb Cut Angle. See Fig 1-B.

SS Angle is the roof pitch angle in degrees. Set your speed square at the SS Angle to mark plumb cut lines.

Tongue (12) Blade (P) for Octagon Common Rafter Level Cut Angle. See Fig 2-B.

SS Angle is the roof pitch level cut angle in degrees. Set your speed square at the SS Angle to mark level cut lines.

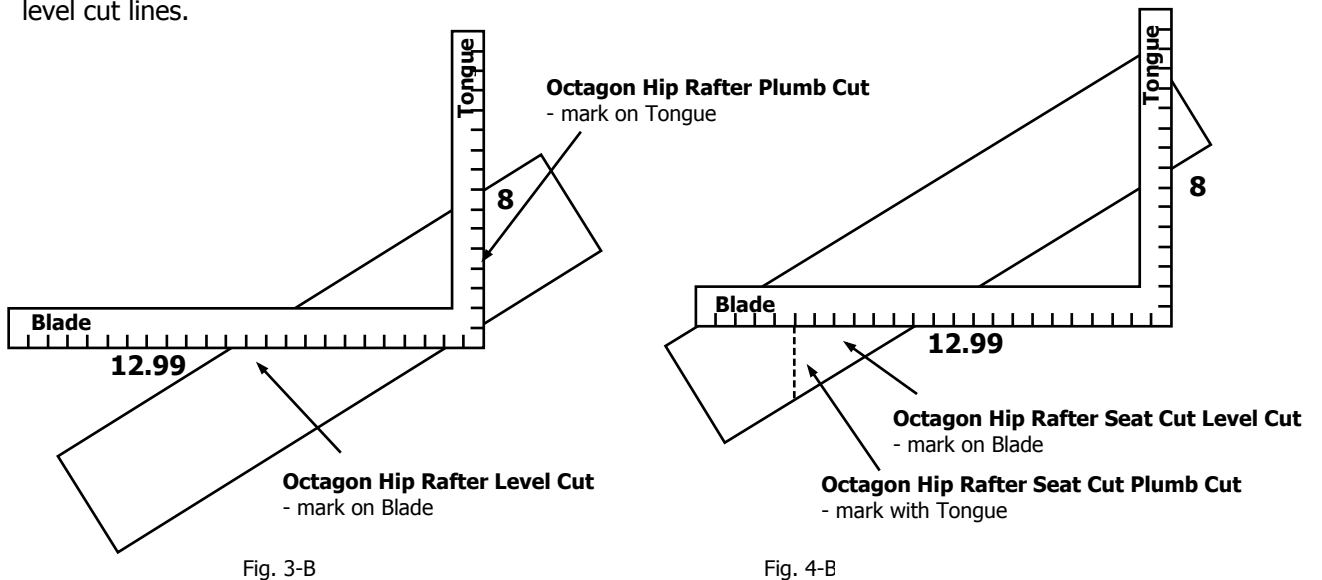


Tongue (P) Blade (12) for Octagon Hip Rafter Plumb Cut Angle. See Fig 3-B.

SS Angle is the hip pitch angle in degrees. Set your speed square at the SS Angle to mark hip rafter plumb cut lines.

Tongue (12.99) Blade (P) for Octagon Hip Rafter Level Cut Angle. See Fig 4-B.

SS Angle is the hip pitch level cut angle in degrees. Set your speed square at the SS Angle to mark hip rafter level cut lines.



Framing Square Usage For Hip Rafter Side Cut

HM = Hip Rafter Miter Angle

HL = Hip Rafter Length Per Foot Of Run

Tongue (HM) Blade (HL) for Hip Rafter Side Cut Angle. See Fig 7.

SS Angle is the hip pitch side cut angle in degrees. Set your speed square at the SS Angle to mark the hip rafter side cut lines. Set your saw to the **Saw Angle** to produce the compound speed square angle to cut the hip rafter side cut angle. The **HM** angle is calculated using the following Trigonometry formulas.

Hip Side Cut Angle = $\arctan (\cos (\text{hip pitch angle}) \div \tan (\text{plan angle}))$

HM = $\tan (\text{Hip Side Cut Angle}) \times \text{hip rafter length per foot of run}$

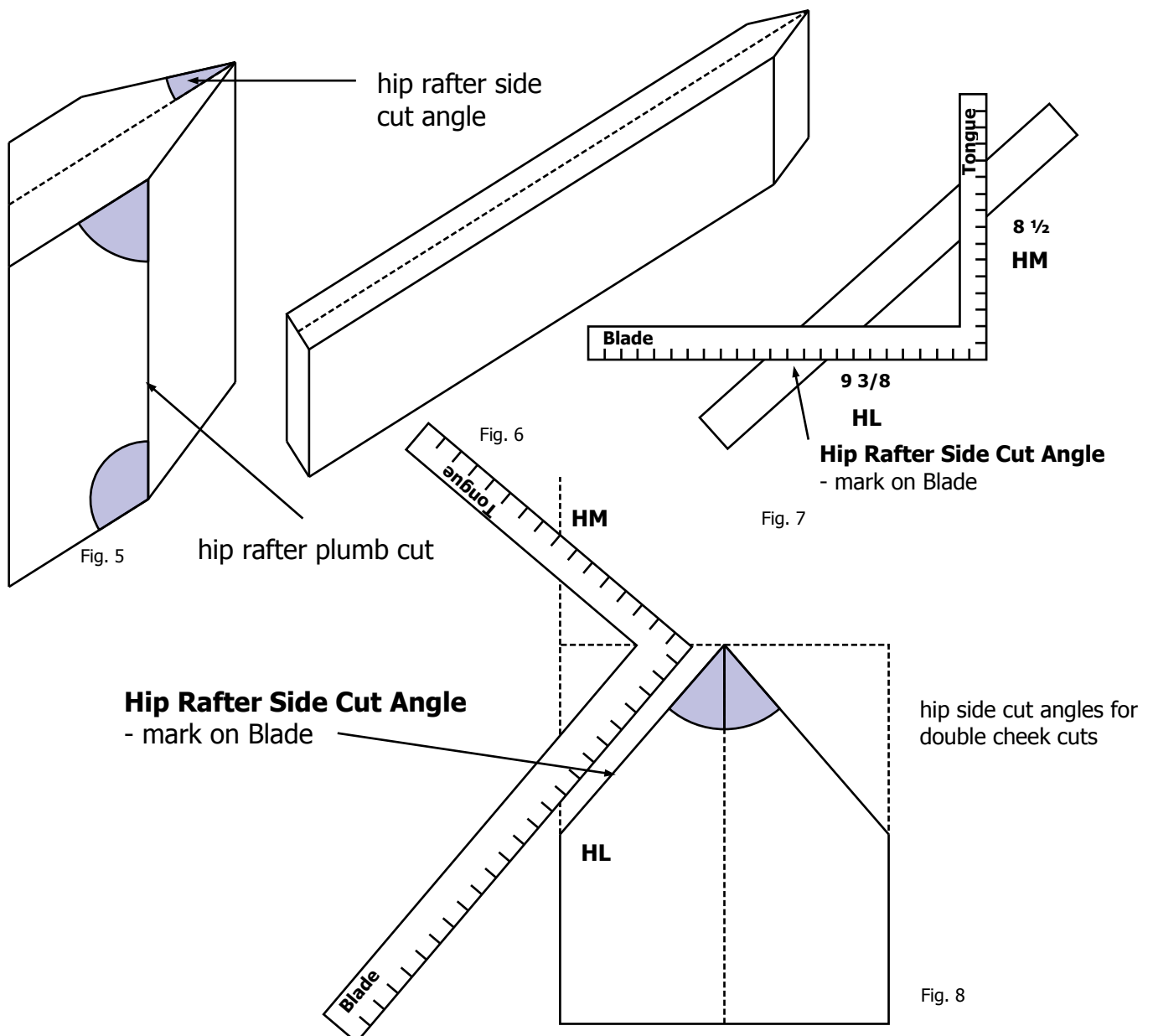
If the **hip rafter length** or **HM** angle is longer than the length of the framing square blade or tongue then you can divide both of the numbers by 2 to produce the same hip rafter side cut angle.

Example:

8:12 pitch

HL = $18 \frac{3}{4} \div 2 = 9 \frac{3}{8}$

HM = $17 \div 2 = 8 \frac{1}{2}$



Framing Square Usage For Hip Rafter Backing

HL = Hip Rafter Length Per Foot Of Run

HRBM = Hip Rafter Backing Miter Angle

Tongue (HRBM) Blade (HL) for Hip Rafter Backing Angle. See Fig 9.

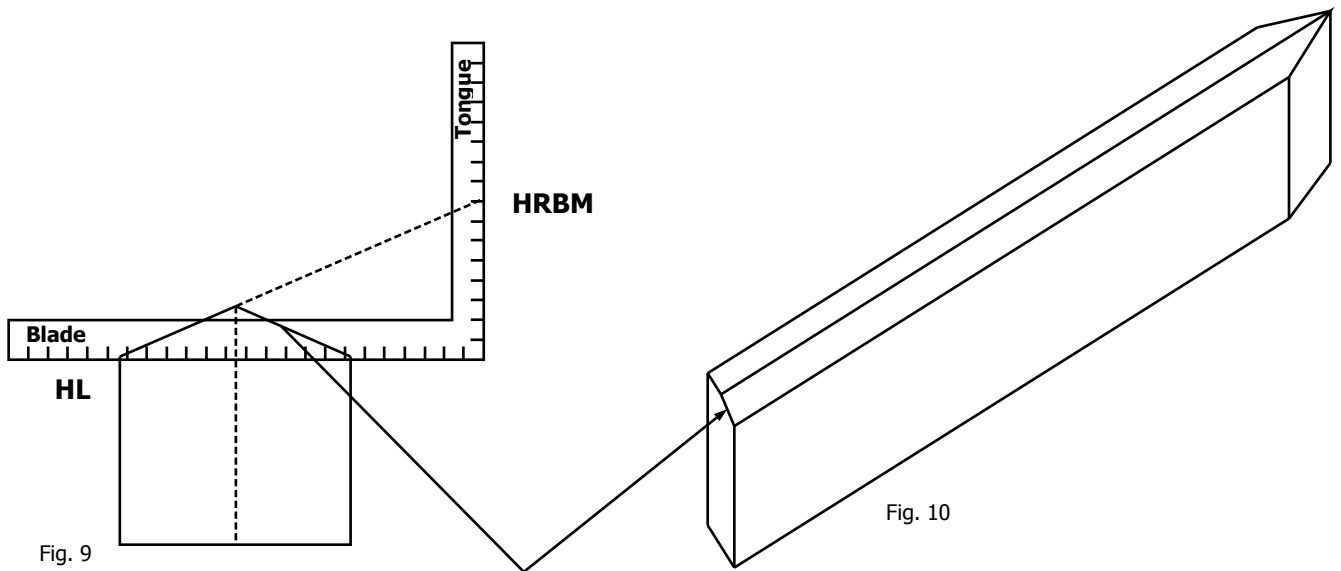
SS Angle is the hip backing angle in degrees. Set your speed square at the SS Angle to mark hip rafter backing line. The hip rafter backing bevel angle can be marked off on the side of the hip rafter by transferring the height from the end view of the hip rafter shown in Fig. 11. After you have marked the backing line on the side of the hip rafter set your saw to the hip rafter backing angle to cut the bevel cut.

The **HRBM** angle is calculated using the following Trigonometry formulas.

Hip Backing Angle = $\arctan (\sin (\text{hip pitch angle}) \div \tan (\text{plan angle}))$

HRBM = $\tan (\text{Hip Backing Angle}) \times \text{hip rafter length per foot of run}$

The **HRBM** can be found in the **Polygon Hip Rafter Backing Miter Table**. The table has a list of all the **Polygon Hip Rafter Backing Miters** for pitches 0 - 24.



Bevel Side Of Hip Rafter With backing Angle

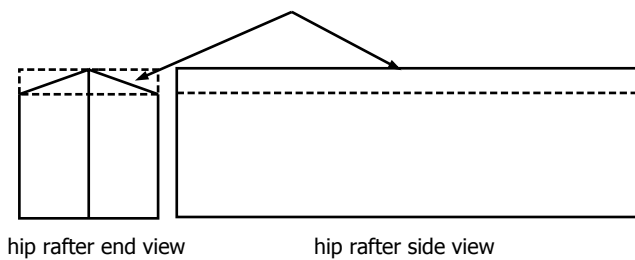


Fig. 11

Hip Backing Angle

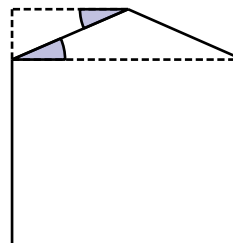
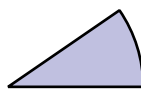


Fig. 12

Framing Square Usage For Jack Rafter Side Cut

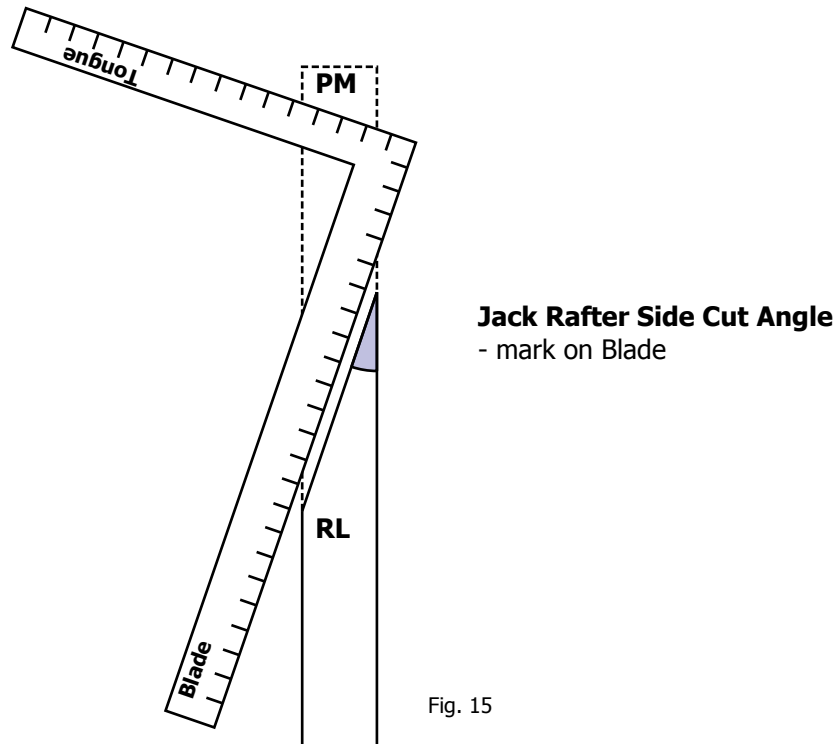
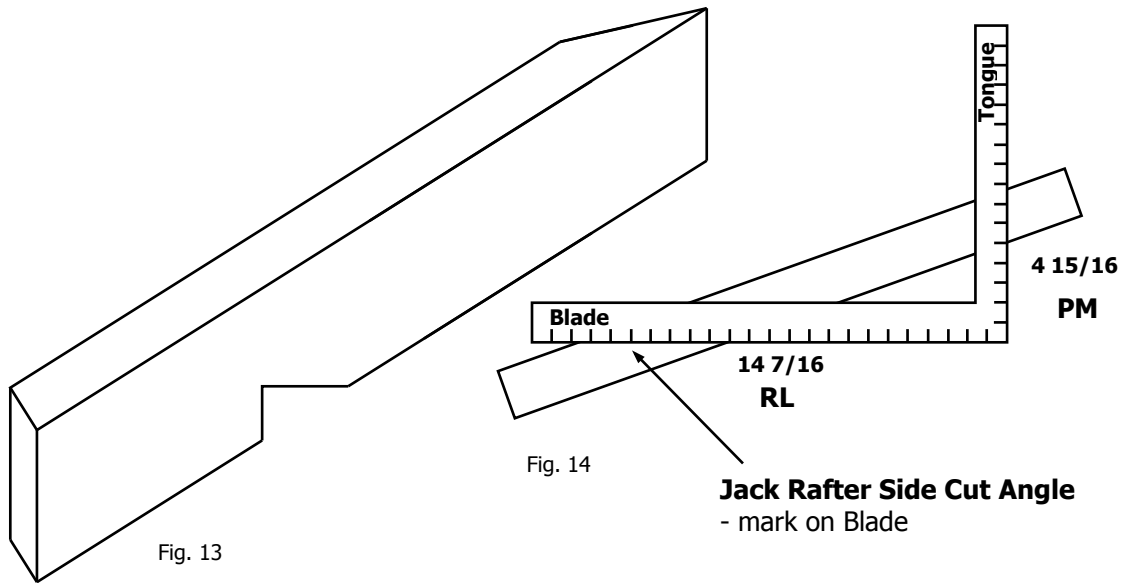
RL = Rafter Length Per Foot Of Run

PM = Polygon Miter

Tongue (PM) Blade (RL) for Jack Rafter Side Cut Angle. See Fig 14.

SS Angle is the jack rafter side cut angle in degrees. Set your speed square at the SS Angle to mark jack rafter side cut angle line. If the **Saw Angle** is less than or equal to your saw miter table settings, then set your saw at the **Saw Angle** and cut the jack rafter plumb cut line to produce the compound angle of the speed square angle.

The **PM** can be found in the **Polygon Miters & Multipliers Table**. The table has a list of all the **Polygon Miters** for polygon from 3 sides to 48 sides.



Framing Square Usage For Purlin Rafters

RL = Rafter Length Per Foot Of Run
PM = Polygon Miter
HRBM = Hip Rafter Backing Miter Angle

Tongue (HRBM) Blade (RL) for Purlin Rafter Plumb Cut Bevel Angle. See Fig 20.

SS Angle is the purlin rafter bevel cut angle in degrees. Set your speed square at the SS Angle to mark the purlin rafter bevel angle line. If the **Saw Angle** is less than or equal to your saw miter table settings, then set your saw at the **Saw Angle** and cut the purlin rafter plumb bevel cut line to produce the compound angle of the speed square angle.

Tongue (PM) Blade (RL) for Purlin Rafter Cross Cut Miter Angle. See Fig 17.

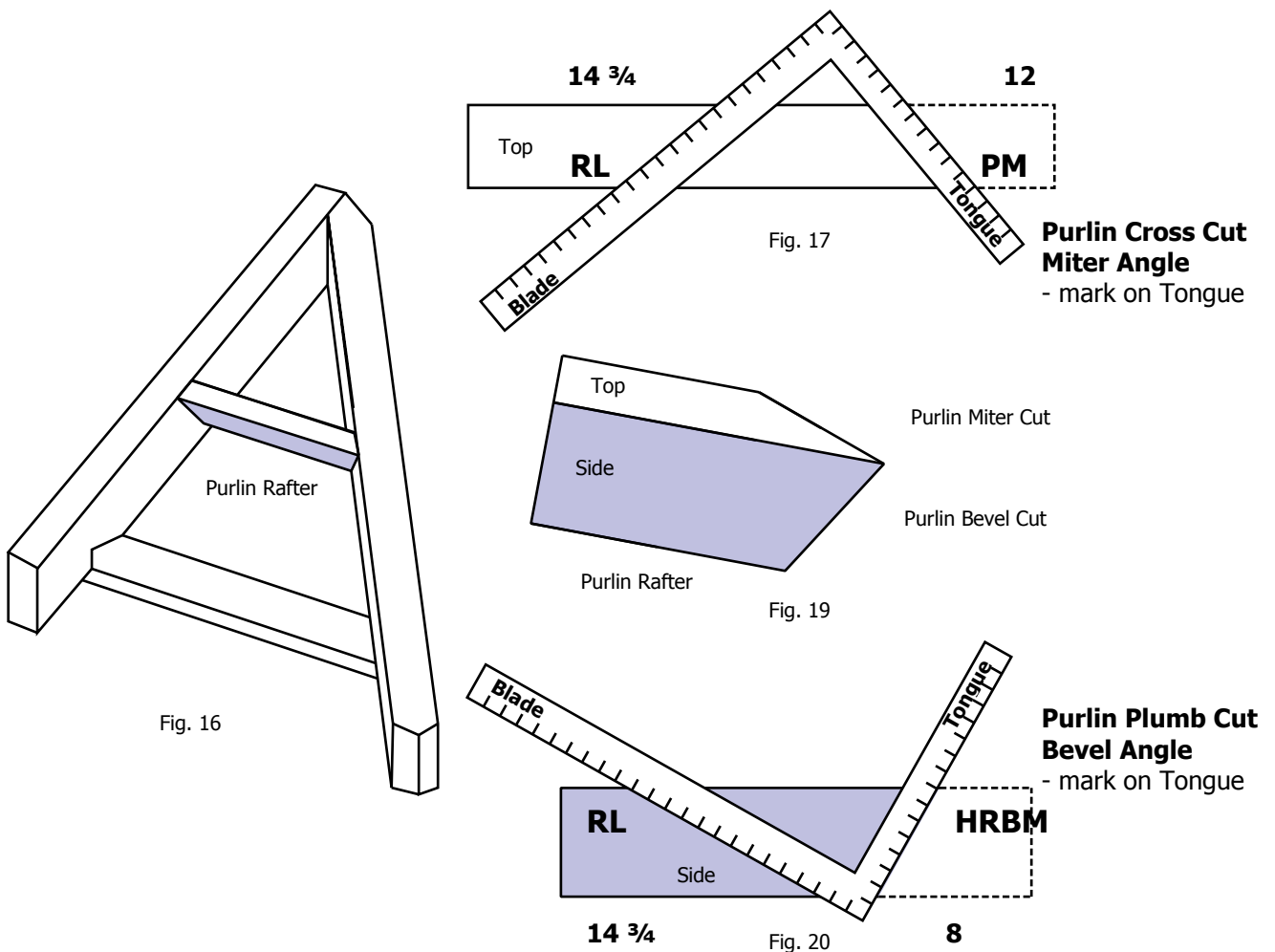
SS Angle is the purlin rafter cross cut miter angle in degrees. Set your speed square at the SS Angle to mark the purlin rafter cross cut angle.

The **PM** can be found in the **Polygon Miters & Multipliers Table**. The table has a list of all the **Polygon Miters** for polygon from 3 sides to 48 sides.

The **HRBM** can be found in the **Polygon Hip Rafter Backing Miter Table**. The table has a list of all the **Polygon Hip Rafter Backing Miters** for pitches 0 - 24.

Note:

These framing square dimensions and angle are for cutting across the top of the purlin rafter. The same way you would cut roof sheathing.



Framing Square Usage For Roof Sheathing

RL = Rafter Length Per Foot Of Run
PM = Polygon Miter
HRBM = Hip Rafter Backing Miter Angle

Tongue (HRBM) Blade (RL) for Roof Sheathing Plumb Cut Bevel Angle. See Fig 23.

SS Angle is the roof sheathing bevel cut angle in degrees. Set your speed square at the SS Angle to mark the roof sheathing bevel angle line. If the **Saw Angle** is less than or equal to your saw miter table settings, then set your saw at the **Saw Angle** and cut the roof sheathing plumb bevel cut line to produce the compound angle of the speed square angle.

Tongue (PM) Blade (RL) for Roof Sheathing Cross Cut Miter Angle. See Fig 22.

SS Angle is the roof sheathing cross cut miter angle in degrees. Set your speed square at the SS Angle to mark the roof sheathing cross cut angle.

The **PM** can be found in the **Polygon Miters & Multipliers Table**. The table has a list of all the **Polygon Miters** for polygon from 3 sides to 48 sides.

The **HRBM** can be found in the **Polygon Hip Rafter Backing Miter Table**. The table has a list of all the **Polygon Hip Rafter Backing Miters** for pitches 0 - 24.

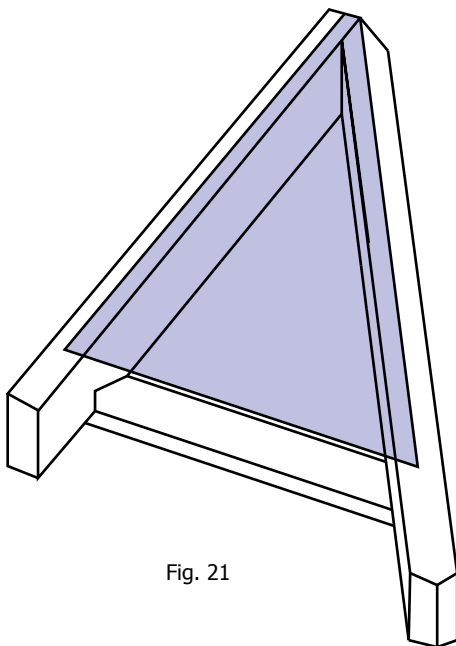
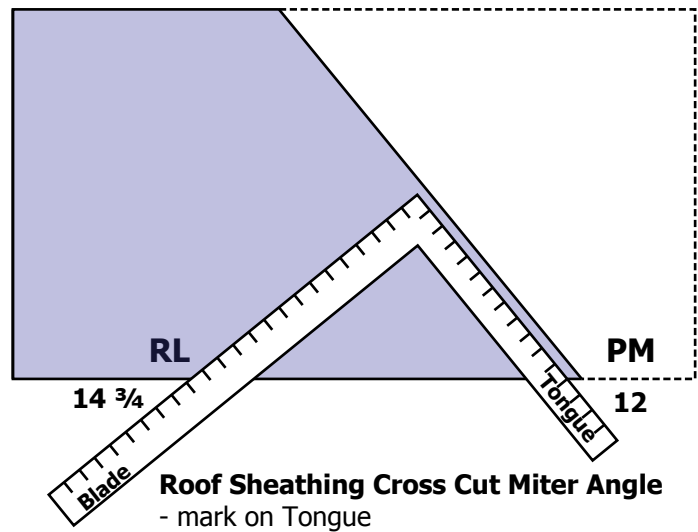


Fig. 21

Fig. 22



Roof Sheathing Plumb Cut Bevel Angle
 - mark on Tongue

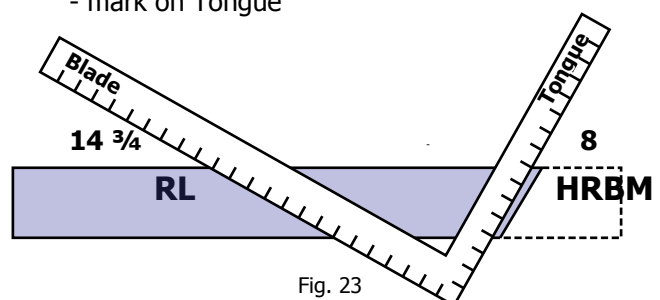


Fig. 23

Framing Square Usage For Frieze Blocks

RL = Rafter Length Per Foot Of Run
PM = Polygon Miter
HRBM = Hip Rafter Backing Miter Angle

Tongue (HRBM) Blade (RL) for Frieze Block Plumb Cut Miter Angle. See Fig 27.

SS Angle is the frieze block plumb cut miter angle in degrees. Set your speed square at the SS Angle to mark the frieze block miter angle line.

Tongue (PM) Blade (RL) for Frieze Block Bevel Angle. See Fig 25.

SS Angle is the frieze block bevel angle in degrees. Set your speed square at the SS Angle to mark the frieze block bevel angle. If the **Saw Angle** is less than or equal to your saw miter table settings, then set your saw at the **Saw Angle** and cut the frieze block bevel cut line to produce the compound angle of the speed square angle.

The **PM** can be found in the **Polygon Miters & Multipliers Table**. The table has a list of all the **Polygon Miters** for polygon from 3 sides to 48 sides.

The **HRBM** can be found in the **Polygon Hip Rafter Backing Miter Table**. The table has a list of all the **Polygon Hip Rafter Backing Miters** for pitches 0 - 24.

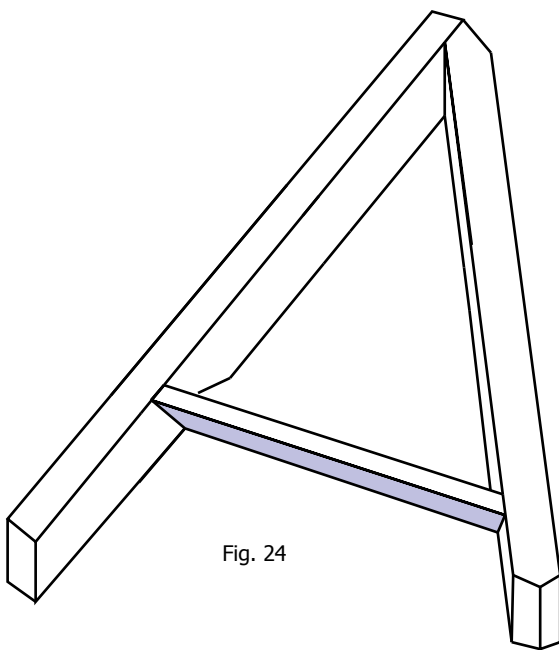


Fig. 24

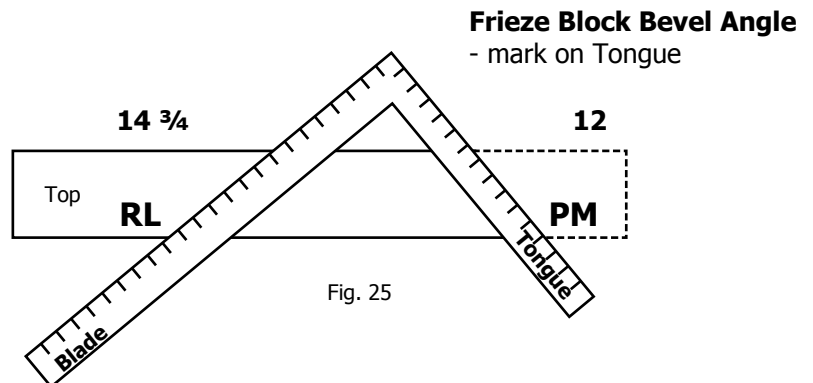


Fig. 25

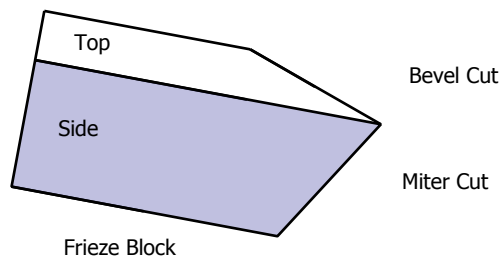


Fig. 26

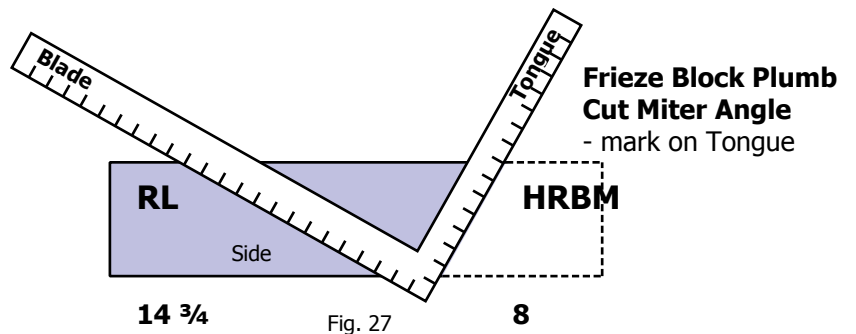


Fig. 27

Framing Square Usage For Square Tail Fascia

RL = Rafter Length Per Foot Of Run
PM = Polygon Miter
HRBM = Hip Rafter Backing Miter Angle

Tongue (HRBM) Blade (RL) for Square Tail Fascia Cut Miter Angle. See Fig 27.

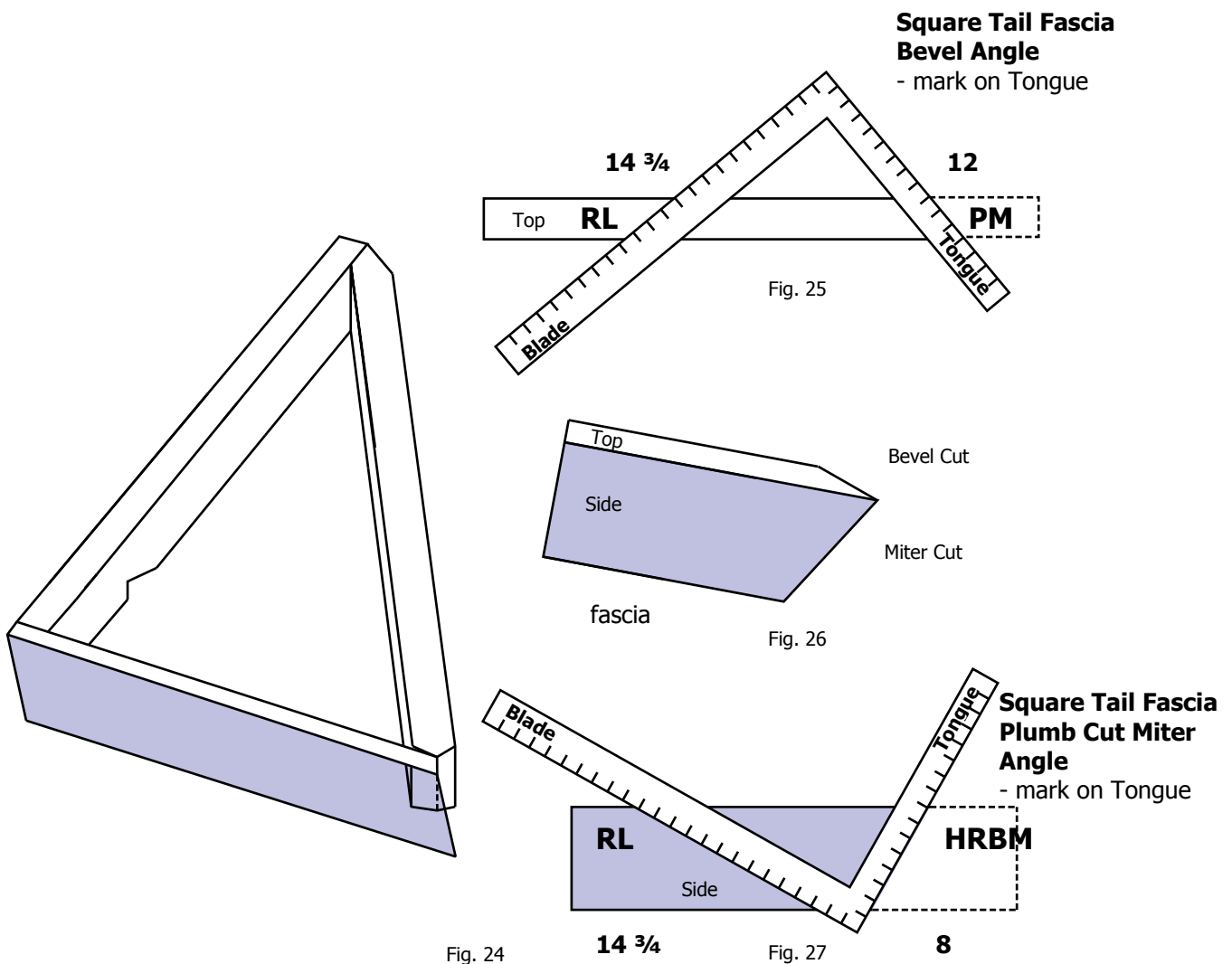
SS Angle is the square tail fascia plumb cut miter angle in degrees. Set your speed square at the SS Angle to mark the square tail fascia miter angle line.

Tongue (PM) Blade (RL) for Square Tail Fascia Bevel Angle. See Fig 25.

SS Angle is the square tail fascia bevel angle in degrees. Set your speed square at the SS Angle to mark the square tail fascia bevel angle. If the **Saw Angle** is less than or equal to your saw miter table settings, then set your saw at the **Saw Angle** and cut the square tail fascia bevel cut line to produce the compound angle of the speed square angle.

The **PM** can be found in the **Polygon Miters & Multipliers Table**. The table has a list of all the **Polygon Miters** for polygon from 3 sides to 48 sides.

The **HRBM** can be found in the **Polygon Hip Rafter Backing Miter Table**. The table has a list of all the **Polygon Hip Rafter Backing Miters** for pitches 0 - 24.



Framing Square Usage For Hip Rafter Square Tail Fascia

RL = Rafter Length Per Foot Of Run

PM = Polygon Miter

HRSM = Hip Rafter Square Tail Miter Angle

Tongue (HRSM) Blade (PM) for Hip Rafter Square Tail Fascia Cut Miter Angle. See Fig 31.

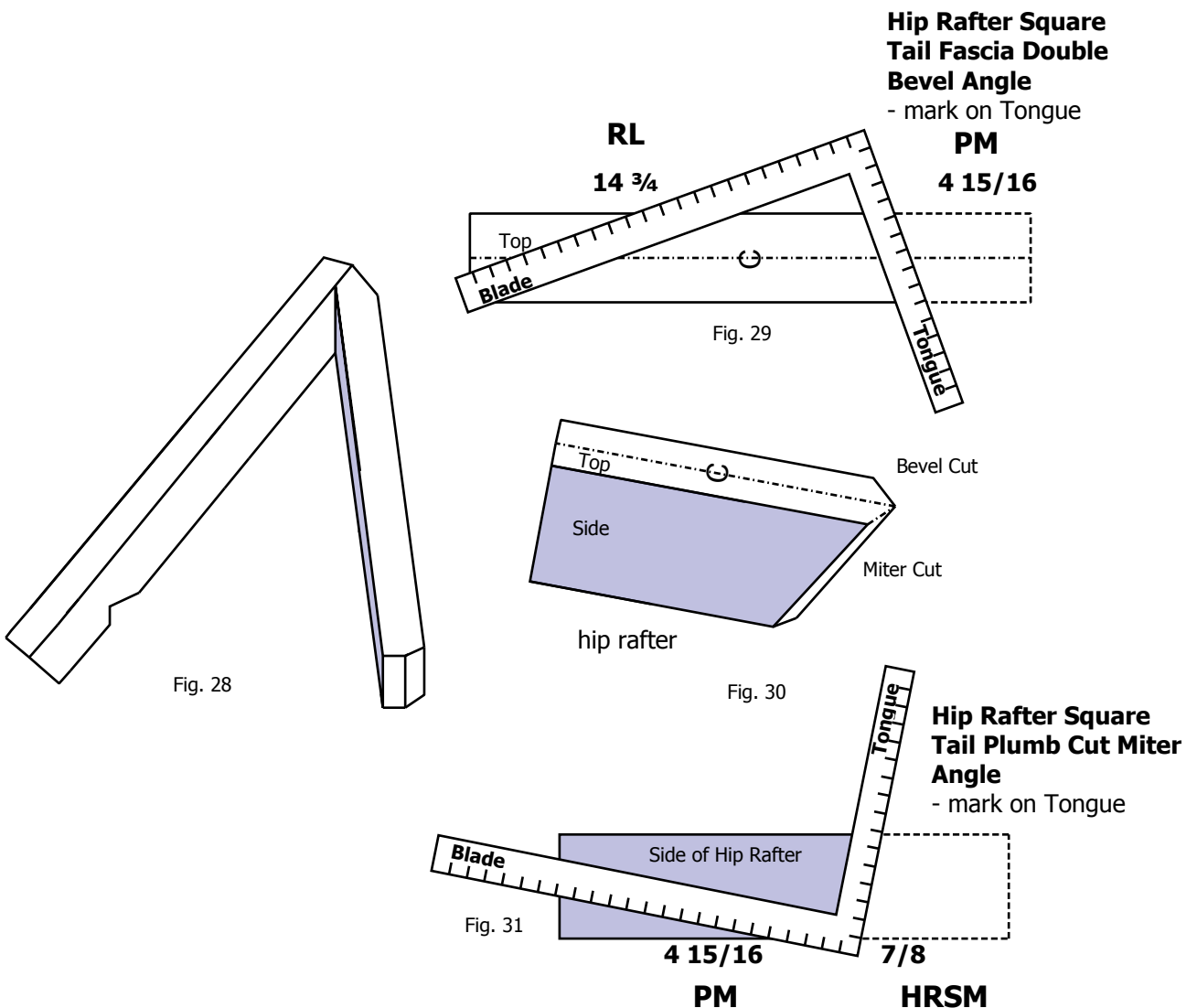
SS Angle is the hip rafter square tail fascia plumb cut miter angle in degrees. Set your speed square at the SS Angle to mark the hip rafter square tail fascia plumb cut miter angle line.

Tongue (PM) Blade (RL) for Square Tail Fascia Bevel Angle. See Fig 29.

SS Angle is the hip rafter square tail fascia bevel angle in degrees. Set your speed square at the SS Angle to mark the hip rafter square tail fascia bevel angle. If the **Saw Angle** is less than or equal to your saw miter table settings, then set your saw at the **Saw Angle** and cut the hip rafter square tail fascia bevel cut line to produce the compound angle of the speed square angle.

The **PM** can be found in the **Polygon Miters & Multipliers Table**. The table has a list of all the **Polygon Miters** for polygon from 3 sides to 48 sides.

The **HRSM** can be found in the **Polygon Hip Rafter Square Tail Miter Table**. The table has a list of all the **Polygon Hip Rafter Square Tail Miters** for pitches 0 - 24.



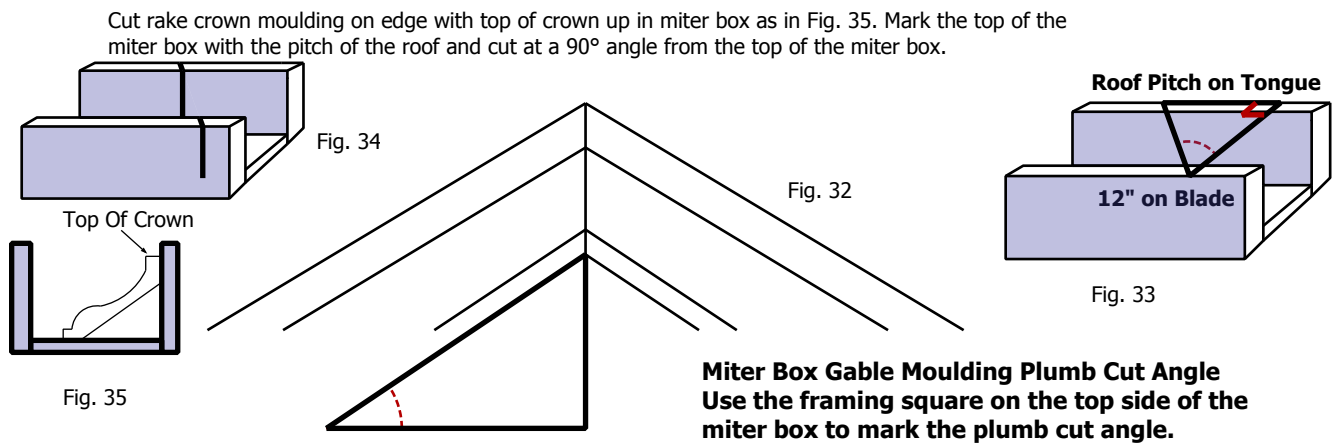
Framing Square Usage For Miter Box Gable Moulding

RL = Rafter Length Per Foot Of Run
PM = Polygon Miter

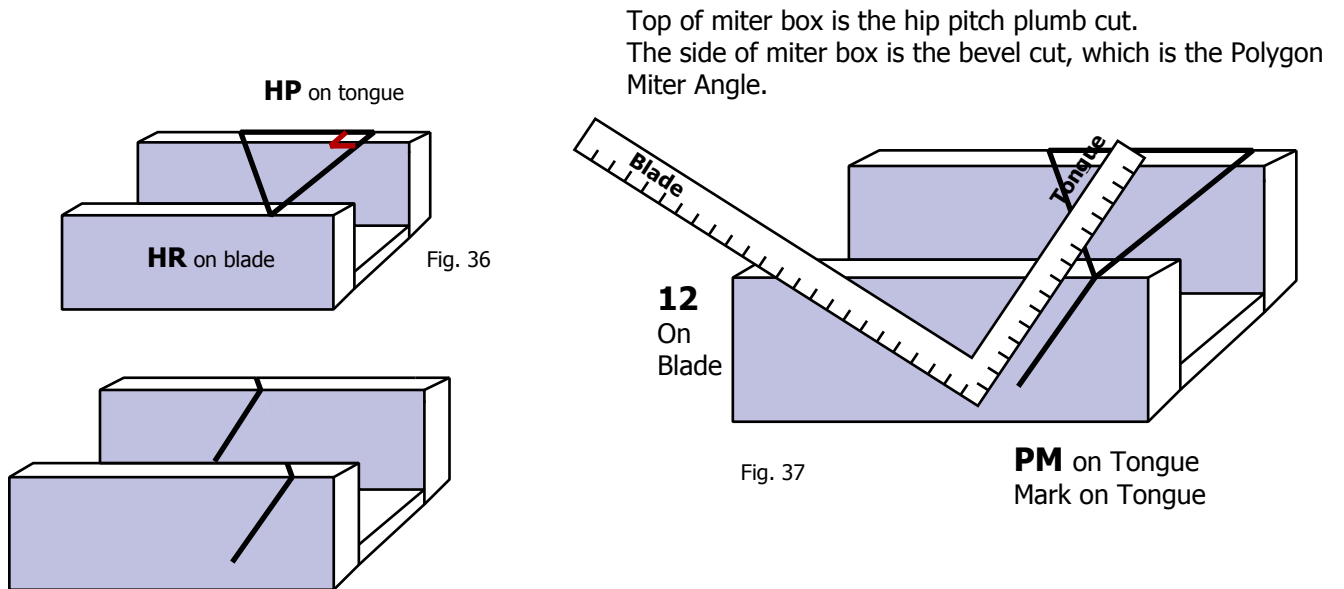
HR = Hip Run Per Foot
HP = Hip Pitch

Tongue (P) Blade (12) for Miter Box Gable Mould Plumb Cut Miter Angle. See Fig 33.
 SS Angle is the miter box plumb cut miter angle in degrees. Set your speed square at the SS Angle to mark the miter box plumb cut miter angle line. The method of making a miter box for the sawing of rake mouldings is shown in Fig. 36. This method is for cutting the rake moulding on edge.

Tongue (PM) Blade (12) for Polygon 2 Cord Miter Box Gable Bevel Angle. See Fig 37.
 SS Angle is the miter box bevel angle in degrees. Set your speed square at the SS Angle to mark the miter box bevel angle. This only applies to the Polygon 2 Cord Rake Gable. Use 90° for a straight gable. See Fig. 34 for a straight gable.



Polygon 2 Cord Rake Gable Framing Square Usage



The **Polygon 2 Cord Rake Gable** is cut similar to a standard rake gable. The miter across the top of the miter box is the hip pitch angle and the bevel is the polygon miter angle. The rake moulding is cut on edge in the miter box as seen in Fig. 35.

Example:

Octagon - 8:12 pitch

Miter = Hip pitch = 31.63°

Bevel = Polygon Miter = 22.5°

3 Sided Polygon Rafter Table (3 - gon)

central angle = 120°
 working angle = 60°
 plan angle = 30°
 miter angle = 20.78 & 12 (60.00°)
 hip run per foot = 24.00
 apothem multiplier = 2.00000
 side wall multiplier = 3.46410

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	60	60.00	0.00	0.00	0.00	24.00	60	6.93	9.24	13.86	6.93	9.24	13.86	0.57735
1	4.76	2.39	8.19	59.66	59.98	4.12	0.05	0.13	24.02	59.91	6.95	9.27	13.90	6.95	9.27	13.90	0.57935
2	9.46	4.76	15.89	58.68	59.91	8.19	0.11	0.25	24.08	59.66	7.02	9.37	14.05	7.02	9.37	14.05	0.58531
3	14.04	7.13	22.79	57.16	59.81	12.12	0.16	0.38	24.19	59.24	7.14	9.52	14.28	7.14	9.52	14.28	0.59512
4	18.43	9.46	28.71	55.24	59.66	15.89	0.22	0.51	24.33	58.68	7.30	9.74	14.61	7.30	9.74	14.61	0.60858
5	22.62	11.77	33.67	53.07	59.47	19.46	0.27	0.63	24.52	57.98	7.51	10.01	15.01	7.51	10.01	15.01	0.62546
6	26.57	14.04	37.76	50.77	59.24	22.79	0.32	0.76	24.74	57.16	7.75	10.33	15.49	7.75	10.33	15.49	0.64550
7	30.26	16.26	41.11	48.42	58.98	25.87	0.38	0.88	25.00	56.24	8.02	10.69	16.04	8.02	10.69	16.04	0.66840
8	33.69	18.43	43.85	46.10	58.68	28.71	0.43	1.01	25.30	55.24	8.33	11.10	16.65	8.33	11.10	16.65	0.69389
9	36.87	20.56	46.10	43.85	58.34	31.31	0.49	1.14	25.63	54.18	8.66	11.55	17.32	8.66	11.55	17.32	0.72169
10	39.81	22.62	47.95	41.71	57.98	33.67	0.54	1.26	26.00	53.07	9.02	12.02	18.04	9.02	12.02	18.04	0.75154
11	42.51	24.62	49.49	39.67	57.58	35.82	0.60	1.39	26.40	51.93	9.40	12.53	18.80	9.40	12.53	18.80	0.78322
12	45.00	26.57	50.77	37.76	57.16	37.76	0.65	1.52	26.83	50.77	9.80	13.06	19.60	9.80	13.06	19.60	0.81650
13	47.29	28.44	51.84	35.97	56.71	39.52	0.70	1.64	27.29	49.60	10.21	13.62	20.43	10.21	13.62	20.43	0.85120
14	49.40	30.26	52.75	34.31	56.24	41.11	0.76	1.77	27.78	48.42	10.65	14.19	21.29	10.65	14.19	21.29	0.88715
15	51.34	32.01	53.52	32.75	55.75	42.55	0.81	1.89	28.30	47.26	11.09	14.79	22.18	11.09	14.79	22.18	0.92421
16	53.13	33.69	54.18	31.31	55.24	43.85	0.87	2.02	28.84	46.10	11.55	15.40	23.09	11.55	15.40	23.09	0.96225
17	54.78	35.31	54.75	29.96	54.72	45.03	0.92	2.15	29.41	44.97	12.01	16.02	24.03	12.01	16.02	24.03	1.00116
18	56.31	36.87	55.24	28.71	54.18	46.10	0.97	2.27	30.00	43.85	12.49	16.65	24.98	12.49	16.65	24.98	1.04083
19	57.72	38.37	55.67	27.55	53.63	47.07	1.03	2.40	30.61	42.77	12.97	17.30	25.95	12.97	17.30	25.95	1.08119
20	59.04	39.81	56.05	26.46	53.07	47.95	1.08	2.53	31.24	41.71	13.47	17.95	26.93	13.47	17.95	26.93	1.12217
21	60.26	41.19	56.38	25.45	52.51	48.76	1.14	2.65	31.89	40.67	13.96	18.62	27.93	13.96	18.62	27.93	1.16369
22	61.39	42.51	56.67	24.50	51.93	49.49	1.19	2.78	32.56	39.67	14.47	19.29	28.94	14.47	19.29	28.94	1.20570
23	62.45	43.78	56.93	23.62	51.35	50.16	1.24	2.90	33.24	38.70	14.98	19.97	29.96	14.98	19.97	29.96	1.24815
24	63.43	45.00	57.16	22.79	50.77	50.77	1.30	3.03	33.94	37.76	15.49	20.66	30.98	15.49	20.66	30.98	1.29099

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 25.30)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (24.00) for Hip Rafter Plumb Cut Angle (SS Angle 18.43)
 Tongue (24.00) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 71.57)

Tongue (41.57) Blade (25.30) for Hip Side Cut Angle (SS Angle 58.68) (Saw Angle 30.00)
 Tongue (13.86) Blade (25.30) for Hip Backing Angle (SS Angle 28.71)

Tongue (20.78) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 55.24) (Saw Angle 30.00)

Tongue (13.86) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 43.85) (Saw Angle 28.71)
 Tongue (20.78) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 55.24)

Tongue (13.86) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 43.85) (Saw Angle 28.71)
 Tongue (20.78) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 55.24)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (24.00) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 18.43)
 Tongue (20.78) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 60.00) (Saw Angle 60.00)

Tongue (13.86) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 43.85)
 Tongue (20.78) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 55.24) (Saw Angle 46.10)

Tongue (13.86) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 43.85)
 Tongue (20.78) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 55.24) (Saw Angle 46.10)

Tongue (8.31) Blade (20.78) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 34.70)
 Tongue (20.78) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 55.24) (Saw Bevel Angle 46.10)

4 Sided Polygon Rafter Table (4 - gon)

central angle = 90°
 working angle = 45°
 plan angle = 45°
 miter angle = 12.00 & 12 (45.00°)
 hip run per foot = 16.97
 apothem multiplier = 1.41421
 side wall multiplier = 2.00000

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	45	45.00	0.00	0.00	0.00	16.97	45	12.44	16.44	24.44	12.00	16.00	24.00	1.00000
1	4.76	3.37	4.75	44.80	44.95	3.37	0.04	0.10	17.00	44.90	12.48	16.50	24.52	12.04	16.06	24.08	1.00347
2	9.46	6.72	9.34	44.23	44.80	6.68	0.09	0.21	17.09	44.61	12.61	16.67	24.78	12.17	16.22	24.33	1.01379
3	14.04	10.02	13.63	43.31	44.56	9.87	0.13	0.31	17.23	44.13	12.82	16.95	25.19	12.37	16.49	24.74	1.03078
4	18.43	13.26	17.55	42.13	44.23	12.92	0.18	0.41	17.44	43.49	13.11	17.33	25.76	12.65	16.87	25.30	1.05409
5	22.62	16.42	21.04	40.75	43.81	15.78	0.22	0.52	17.69	42.71	13.48	17.81	26.48	13.00	17.33	26.00	1.08333
6	26.57	19.47	24.09	39.23	43.31	18.43	0.27	0.62	18.00	41.81	13.91	18.38	27.32	13.42	17.89	26.83	1.11803
7	30.26	22.42	26.74	37.65	42.75	20.87	0.31	0.72	18.36	40.82	14.40	19.03	28.29	13.89	18.52	27.78	1.15770
8	33.69	25.24	29.02	36.04	42.13	23.09	0.35	0.82	18.76	39.76	14.95	19.76	29.37	14.42	19.23	28.84	1.20185
9	36.87	27.94	30.96	34.45	41.46	25.10	0.40	0.93	19.21	38.66	15.55	20.55	30.55	15.00	20.00	30.00	1.25000
10	39.81	30.51	32.63	32.90	40.75	26.92	0.44	1.03	19.70	37.53	16.19	21.40	31.81	15.62	20.83	31.24	1.30171
11	42.51	32.95	34.05	31.42	40.00	28.54	0.49	1.13	20.22	36.40	16.87	22.30	33.15	16.28	21.71	32.56	1.35657
12	45.00	35.26	35.26	30.00	39.23	30.00	0.53	1.24	20.78	35.26	17.59	23.25	34.56	16.97	22.63	33.94	1.41421
13	47.29	37.45	36.31	28.66	38.44	31.30	0.57	1.34	21.38	34.15	18.34	24.24	36.03	17.69	23.59	35.38	1.47432
14	49.40	39.52	37.21	27.40	37.65	32.47	0.62	1.44	22.00	33.06	19.11	25.26	37.55	18.44	24.59	36.88	1.53659
15	51.34	41.47	37.99	26.21	36.84	33.52	0.66	1.55	22.65	31.99	19.91	26.32	39.12	19.21	25.61	38.42	1.60078
16	53.13	43.31	38.66	25.10	36.04	34.45	0.71	1.65	23.32	30.96	20.73	27.40	40.73	20.00	26.67	40.00	1.66667
17	54.78	45.05	39.25	24.07	35.24	35.29	0.75	1.75	24.02	29.97	21.57	28.51	42.38	20.81	27.74	41.62	1.73405
18	56.31	46.69	39.76	23.09	34.45	36.04	0.80	1.86	24.74	29.02	22.43	29.64	44.06	21.63	28.84	43.27	1.80278
19	57.72	48.23	40.21	22.18	33.67	36.72	0.84	1.96	25.48	28.10	23.29	30.79	45.77	22.47	29.96	44.94	1.87268
20	59.04	49.68	40.61	21.33	32.90	37.33	0.88	2.06	26.23	27.23	24.18	31.95	47.50	23.32	31.10	46.65	1.94365
21	60.26	51.06	40.97	20.54	32.15	37.87	0.93	2.17	27.00	26.39	25.07	33.13	49.26	24.19	32.25	48.37	2.01556
22	61.39	52.35	41.28	19.79	31.42	38.37	0.97	2.27	27.78	25.59	25.98	34.33	51.04	25.06	33.41	50.12	2.08833
23	62.45	53.58	41.56	19.09	30.70	38.82	1.02	2.37	28.58	24.82	26.89	35.54	52.83	25.94	34.59	51.88	2.16185
24	63.43	54.74	41.81	18.43	30.00	39.23	1.06	2.47	29.39	24.09	27.82	36.76	54.65	26.83	35.78	53.67	2.23607

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 18.76)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (16.97) for Hip Rafter Plumb Cut Angle (SS Angle 25.24)
 Tongue (16.97) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 64.76)

Tongue (16.97) Blade (18.76) for Hip Side Cut Angle (SS Angle 42.13) (Saw Angle 45.00)
 Tongue (8.00) Blade (18.76) for Hip Backing Angle (SS Angle 23.09)

Tongue (12.00) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 39.76) (Saw Angle 45.00)

Tongue (8.00) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 29.02) (Saw Angle 23.09)
 Tongue (12.00) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 39.76)

Tongue (8.00) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 29.02) (Saw Angle 23.09)
 Tongue (12.00) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 39.76)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (16.97) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 25.24)
 Tongue (12.00) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 45.00) (Saw Angle 45.00)

Tongue (8.00) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 29.02)
 Tongue (12.00) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 39.76) (Saw Angle 36.04)

Tongue (8.00) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 29.02)
 Tongue (12.00) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 39.76) (Saw Angle 36.04)

Tongue (3.92) Blade (12.00) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 18.07)
 Tongue (12.00) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 39.76) (Saw Bevel Angle 36.04)

5 Sided Polygon Rafter Table (5 - gon)

central angle = 72°
 working angle = 36°
 plan angle = 54°
 miter angle = 8.72 & 12 (36.00°)
 hip run per foot = 14.83
 apothem multiplier = 1.23607
 side wall multiplier = 1.45309

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	36	36.00	0.00	0.00	0.00	14.83	36	17.31	22.81	33.82	16.52	22.02	33.03	1.37638
1	4.76	3.86	3.45	35.86	35.94	2.80	0.04	0.09	14.87	35.91	17.37	22.89	33.94	16.57	22.10	33.15	1.38115
2	9.46	7.68	6.81	35.44	35.75	5.55	0.07	0.17	14.97	35.63	17.54	23.13	34.29	16.74	22.33	33.49	1.39537
3	14.04	11.43	9.99	34.77	35.46	8.20	0.11	0.26	15.13	35.18	17.84	23.51	34.86	17.02	22.70	34.05	1.41874
4	18.43	15.09	12.94	33.89	35.05	10.71	0.15	0.34	15.36	34.58	18.24	24.04	35.65	17.41	23.21	34.82	1.45083
5	22.62	18.63	15.61	32.86	34.55	13.07	0.18	0.43	15.65	33.85	18.75	24.71	36.64	17.89	23.86	35.79	1.49108
6	26.57	22.02	18.00	31.72	33.96	15.24	0.22	0.51	16.00	33.02	19.35	25.50	37.81	18.47	24.62	36.93	1.53884
7	30.26	25.26	20.11	30.51	33.31	17.23	0.26	0.60	16.40	32.11	20.03	26.41	39.16	19.12	25.50	38.24	1.59344
8	33.69	28.34	21.95	29.28	32.60	19.03	0.29	0.69	16.85	31.15	20.80	27.42	40.65	19.85	26.47	39.70	1.65421
9	36.87	31.25	23.55	28.05	31.85	20.65	0.33	0.77	17.35	30.17	21.63	28.51	42.28	20.65	27.53	41.29	1.72048
10	39.81	33.99	24.94	26.84	31.07	22.10	0.37	0.86	17.89	29.17	22.53	29.69	44.03	21.50	28.67	43.00	1.79165
11	42.51	36.56	26.15	25.68	30.27	23.40	0.40	0.94	18.47	28.17	23.48	30.94	45.88	22.41	29.87	44.81	1.86716
12	45.00	38.97	27.19	24.56	29.46	24.56	0.44	1.03	19.08	27.19	24.47	32.26	47.83	23.36	31.14	46.72	1.94650
13	47.29	41.23	28.10	23.50	28.65	25.59	0.48	1.11	19.72	26.23	25.51	33.63	49.86	24.35	32.47	48.70	2.02922
14	49.40	43.35	28.88	22.49	27.85	26.51	0.51	1.20	20.40	25.31	26.59	35.05	51.97	25.38	33.84	50.76	2.11494
15	51.34	45.32	29.57	21.54	27.06	27.32	0.55	1.29	21.10	24.41	27.70	36.51	54.14	26.44	35.25	52.88	2.20329
16	53.13	47.17	30.17	20.65	26.29	28.05	0.59	1.37	21.82	23.55	28.84	38.02	56.37	27.53	36.70	55.06	2.29397
17	54.78	48.89	30.69	19.81	25.53	28.70	0.62	1.46	22.56	22.73	30.01	39.56	58.65	28.64	38.19	57.28	2.38672
18	56.31	50.51	31.15	19.03	24.80	29.28	0.66	1.54	23.32	21.95	31.20	41.12	60.97	29.78	39.70	59.55	2.48131
19	57.72	52.02	31.56	18.29	24.09	29.80	0.70	1.63	24.10	21.20	32.41	42.72	63.34	30.93	41.24	61.86	2.57753
20	59.04	53.44	31.92	17.60	23.40	30.27	0.73	1.71	24.90	20.50	33.64	44.34	65.74	32.10	42.80	64.20	2.67521
21	60.26	54.77	32.24	16.96	22.74	30.69	0.77	1.80	25.71	19.82	34.88	45.98	68.17	33.29	44.39	66.58	2.77419
22	61.39	56.01	32.53	16.35	22.10	31.07	0.81	1.89	26.53	19.18	36.14	47.64	70.63	34.49	45.99	68.98	2.87434
23	62.45	57.18	32.79	15.78	21.49	31.41	0.84	1.97	27.37	18.58	37.41	49.31	73.12	35.71	47.61	71.41	2.97554
24	63.43	58.28	33.02	15.24	20.91	31.72	0.88	2.06	28.21	18.00	38.70	51.01	75.63	36.93	49.24	73.86	3.07768

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 16.85)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (14.83) for Hip Rafter Plumb Cut Angle (SS Angle 28.34)
 Tongue (14.83) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 61.66)

Tongue (10.78) Blade (16.85) for Hip Side Cut Angle (SS Angle 32.60) (Saw Angle 54.00)
 Tongue (5.81) Blade (16.85) for Hip Backing Angle (SS Angle 19.03)

Tongue (8.72) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 31.15) (Saw Angle 54.00)

Tongue (5.81) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 21.95) (Saw Angle 19.03)
 Tongue (8.72) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 31.15)

Tongue (5.81) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 21.95) (Saw Angle 19.03)
 Tongue (8.72) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 31.15)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (14.83) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 28.34)
 Tongue (8.72) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 36.00) (Saw Angle 36.00)

Tongue (5.81) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 21.95)
 Tongue (8.72) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 31.15) (Saw Angle 29.28)

Tongue (5.81) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 21.95)
 Tongue (8.72) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 31.15) (Saw Angle 29.28)

Tongue (2.37) Blade (8.72) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 11.15)
 Tongue (8.72) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 31.15) (Saw Bevel Angle 29.28)

6 Sided Polygon Rafter Table (6 - gon)

central angle = 60°
 working angle = 30°
 plan angle = 60°
 miter angle = 6.93 & 12 (30.00°)
 hip run per foot = 13.86
 apothem multiplier = 1.15470
 side wall multiplier = 1.15470

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	30	30.00	0.00	0.00	0.00	13.86	30	21.88	28.81	42.67	20.78	27.71	41.57	1.73205
1	4.76	4.13	2.75	29.89	29.94	2.38	0.03	0.07	13.89	29.91	21.96	28.91	42.82	20.86	27.81	41.71	1.73805
2	9.46	8.21	5.42	29.55	29.74	4.72	0.06	0.15	14.00	29.66	22.18	29.21	43.26	21.07	28.10	42.14	1.75594
3	14.04	12.22	7.97	29.02	29.44	6.97	0.09	0.22	14.18	29.25	22.56	29.70	43.98	21.42	28.57	42.85	1.78536
4	18.43	16.10	10.35	28.32	29.02	9.10	0.12	0.29	14.42	28.71	23.07	30.37	44.98	21.91	29.21	43.82	1.82574
5	22.62	19.84	12.52	27.49	28.51	11.09	0.16	0.36	14.73	28.05	23.71	31.21	46.22	22.52	30.02	45.03	1.87639
6	26.57	23.41	14.48	26.57	27.92	12.92	0.19	0.44	15.10	27.31	24.47	32.21	47.70	23.24	30.98	46.48	1.93649
7	30.26	26.80	16.22	25.59	27.26	14.59	0.22	0.51	15.52	26.51	25.33	33.35	49.40	24.06	32.08	48.12	2.00520
8	33.69	30.00	17.76	24.58	26.57	16.10	0.25	0.58	16.00	25.66	26.30	34.63	51.28	24.98	33.31	49.96	2.08167
9	36.87	33.00	19.11	23.58	25.84	17.46	0.28	0.66	16.52	24.79	27.35	36.01	53.33	25.98	34.64	51.96	2.16506
10	39.81	35.82	20.28	22.59	25.09	18.67	0.31	0.73	17.09	23.92	28.48	37.50	55.54	27.06	36.07	54.11	2.25462
11	42.51	38.44	21.31	21.63	24.33	19.75	0.34	0.80	17.69	23.05	29.69	39.08	57.88	28.20	37.59	56.39	2.34965
12	45.00	40.89	22.21	20.70	23.58	20.70	0.37	0.87	18.33	22.21	30.95	40.74	60.34	29.39	39.19	58.79	2.44949
13	47.29	43.17	22.99	19.82	22.83	21.56	0.41	0.95	19.00	21.39	32.26	42.48	62.91	30.64	40.86	61.29	2.55359
14	49.40	45.30	23.67	18.99	22.10	22.31	0.44	1.02	19.70	20.59	33.62	44.27	65.56	31.94	42.58	63.87	2.66145
15	51.34	47.27	24.27	18.20	21.39	22.98	0.47	1.09	20.42	19.83	35.03	46.12	68.30	33.27	44.36	66.54	2.77263
16	53.13	49.11	24.79	17.46	20.70	23.58	0.50	1.17	21.17	19.11	36.47	48.02	71.11	34.64	46.19	69.28	2.88675
17	54.78	50.82	25.25	16.76	20.04	24.11	0.53	1.24	21.93	18.42	37.95	49.96	73.99	36.04	48.06	72.08	3.00347
18	56.31	52.41	25.66	16.10	19.40	24.58	0.56	1.31	22.72	17.76	39.45	51.94	76.92	37.47	49.96	74.94	3.12250
19	57.72	53.90	26.02	15.49	18.79	25.01	0.59	1.39	23.52	17.13	40.98	53.95	79.90	38.92	51.90	77.85	3.24358
20	59.04	55.28	26.34	14.91	18.20	25.39	0.62	1.46	24.33	16.54	42.53	56.00	82.93	40.40	53.86	80.80	3.36650
21	60.26	56.58	26.62	14.36	17.64	25.73	0.66	1.53	25.16	15.98	44.11	58.07	86.00	41.89	55.86	83.79	3.49106
22	61.39	57.80	26.88	13.85	17.10	26.04	0.69	1.60	26.00	15.45	45.70	60.17	89.10	43.41	57.87	86.81	3.61709
23	62.45	58.93	27.11	13.37	16.59	26.31	0.72	1.68	26.85	14.95	47.31	62.28	92.24	44.93	59.91	89.87	3.74444
24	63.43	60.00	27.31	12.92	16.10	26.57	0.75	1.75	27.71	14.48	48.93	64.42	95.41	46.48	61.97	92.95	3.87298

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 16.00)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (13.86) for Hip Rafter Plumb Cut Angle (SS Angle 30.00)
 Tongue (13.86) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 60.00)

Tongue (8.00) Blade (16.00) for Hip Side Cut Angle (SS Angle 26.57) (Saw Angle 60.00)
 Tongue (4.62) Blade (16.00) for Hip Backing Angle (SS Angle 16.10)

Tongue (6.93) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 25.66) (Saw Angle 60.00)

Tongue (4.62) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 17.76) (Saw Angle 16.10)
 Tongue (6.93) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 25.66)

Tongue (4.62) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 17.76) (Saw Angle 16.10)
 Tongue (6.93) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 25.66)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (13.86) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 30.00)
 Tongue (6.93) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 30.00) (Saw Angle 30.00)

Tongue (4.62) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 17.76)
 Tongue (6.93) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 25.66) (Saw Angle 24.58)

Tongue (4.62) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 17.76)
 Tongue (6.93) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 25.66) (Saw Angle 24.58)

Tongue (1.60) Blade (6.93) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 7.59)
 Tongue (6.93) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 25.66) (Saw Bevel Angle 24.58)

7 Sided Polygon Rafter Table (7 - gon)

central angle = 51.4285714285714°
 working angle = 25.7142857142857°
 plan angle = 64.2857142857143°
 miter angle = 5.78 & 12 (25.71°)
 hip run per foot = 13.32
 apothem multiplier = 1.10992
 side wall multiplier = 0.96315

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	25.7142857142857	25.71	0.00	0.00	0.00	13.32	25.7142857142857	26.30	34.61	51.22	24.92	33.22	49.84	2.07652
1	4.76	4.29	2.29	25.62	25.65	2.06	0.03	0.06	13.36	25.64	26.40	34.73	51.40	25.00	33.34	50.01	2.08372
2	9.46	8.54	4.53	25.34	25.47	4.09	0.05	0.13	13.47	25.41	26.67	35.09	51.93	25.26	33.68	50.52	2.10516
3	14.04	12.69	6.66	24.89	25.16	6.04	0.08	0.19	13.65	25.04	27.11	35.68	52.80	25.69	34.25	51.37	2.14043
4	18.43	16.72	8.66	24.31	24.76	7.89	0.11	0.25	13.91	24.55	27.73	36.48	53.99	26.27	35.02	52.53	2.18885
5	22.62	20.58	10.49	23.61	24.27	9.61	0.14	0.32	14.23	23.97	28.50	37.49	55.49	26.99	35.99	53.99	2.24956
6	26.57	24.25	12.15	22.83	23.71	11.19	0.16	0.38	14.61	23.30	29.41	38.70	57.27	27.86	37.15	55.72	2.32162
7	30.26	27.72	13.64	22.01	23.09	12.63	0.19	0.44	15.05	22.59	30.45	40.07	59.30	28.85	38.46	57.70	2.40400
8	33.69	30.99	14.96	21.16	22.43	13.93	0.22	0.51	15.54	21.84	31.61	41.60	61.56	29.95	39.93	59.90	2.49567
9	36.87	34.05	16.12	20.31	21.75	15.09	0.24	0.57	16.07	21.07	32.88	43.26	64.03	31.15	41.53	62.30	2.59565
10	39.81	36.90	17.13	19.47	21.06	16.13	0.27	0.63	16.66	20.30	34.24	45.05	66.68	32.44	43.25	64.87	2.70303
11	42.51	39.55	18.03	18.65	20.37	17.05	0.30	0.70	17.27	19.54	35.68	46.95	69.49	33.80	45.07	67.61	2.81694
12	45.00	42.02	18.80	17.87	19.69	17.87	0.33	0.76	17.93	18.80	37.20	48.95	72.44	35.24	46.99	70.48	2.93664
13	47.29	44.31	19.49	17.12	19.02	18.59	0.35	0.82	18.61	18.09	38.78	51.03	75.52	36.74	48.98	73.47	3.06145
14	49.40	46.43	20.08	16.40	18.36	19.23	0.38	0.89	19.32	17.40	40.42	53.18	78.71	38.29	51.05	76.58	3.19076
15	51.34	48.40	20.61	15.73	17.73	19.80	0.41	0.95	20.06	16.74	42.11	55.40	82.00	39.89	53.18	79.78	3.32406
16	53.13	50.22	21.07	15.09	17.12	20.31	0.43	1.01	20.82	16.12	43.84	57.68	85.37	41.53	55.37	83.06	3.46087
17	54.78	51.92	21.48	14.49	16.54	20.76	0.46	1.08	21.60	15.52	45.61	60.02	88.82	43.21	57.61	86.42	3.60080
18	56.31	53.50	21.84	13.93	15.98	21.16	0.49	1.14	22.39	14.96	47.42	62.40	92.34	44.92	59.90	89.84	3.74350
19	57.72	54.97	22.15	13.40	15.45	21.52	0.52	1.20	23.20	14.42	49.26	64.81	95.92	46.66	62.22	93.33	3.88867
20	59.04	56.34	22.44	12.90	14.95	21.84	0.54	1.27	24.03	13.92	51.13	67.27	99.56	48.43	64.58	96.86	4.03603
21	60.26	57.62	22.69	12.43	14.46	22.13	0.57	1.33	24.87	13.44	53.02	69.76	103.24	50.22	66.97	100.45	4.18536
22	61.39	58.81	22.92	11.99	14.00	22.39	0.60	1.39	25.72	12.99	54.93	72.28	106.97	52.04	69.38	104.07	4.33646
23	62.45	59.93	23.12	11.58	13.57	22.62	0.62	1.46	26.58	12.56	56.87	74.82	110.74	53.87	71.83	107.74	4.48914
24	63.43	60.97	23.30	11.19	13.15	22.83	0.65	1.52	27.45	12.15	58.82	77.39	114.54	55.72	74.29	111.44	4.64324

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 15.54)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (13.32) for Hip Rafter Plumb Cut Angle (SS Angle 30.99)
 Tongue (13.32) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 59.01)

Tongue (6.41) Blade (15.54) for Hip Side Cut Angle (SS Angle 22.43) (Saw Angle 64.29)
 Tongue (3.85) Blade (15.54) for Hip Backing Angle (SS Angle 13.93)

Tongue (5.78) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 21.84) (Saw Angle 64.29)

Tongue (3.85) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 14.96) (Saw Angle 13.93)
 Tongue (5.78) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 21.84)

Tongue (3.85) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 14.96) (Saw Angle 13.93)
 Tongue (5.78) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 21.84)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (13.32) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 30.99)
 Tongue (5.78) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 25.71) (Saw Angle 25.71)

Tongue (3.85) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 14.96)
 Tongue (5.78) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 21.84) (Saw Angle 21.16)

Tongue (3.85) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 14.96)
 Tongue (5.78) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 21.84) (Saw Angle 21.16)

Tongue (1.16) Blade (5.78) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 5.51)
 Tongue (5.78) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 21.84) (Saw Bevel Angle 21.16)

8 Sided Polygon Rafter Table (8 - gon)

central angle = 45°
 working angle = 22.5°
 plan angle = 67.5°
 miter angle = 4.97 & 12 (22.50°)
 hip run per foot = 12.99
 apothem multiplier = 1.08239
 side wall multiplier = 0.82843

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	22.5	22.50	0.00	0.00	0.00	12.99	22.5	30.63	40.29	59.60	28.97	38.63	57.94	2.41421
1	4.76	4.40	1.97	22.42	22.44	1.82	0.02	0.06	13.03	22.43	30.74	40.43	59.81	29.07	38.76	58.14	2.42258
2	9.46	8.75	3.90	22.18	22.26	3.61	0.05	0.11	13.14	22.22	31.05	40.84	60.42	29.37	39.16	58.74	2.44751
3	14.04	13.01	5.74	21.79	21.98	5.33	0.07	0.17	13.33	21.89	31.57	41.53	61.44	29.86	39.82	59.72	2.48851
4	18.43	17.12	7.46	21.29	21.60	6.95	0.10	0.22	13.59	21.45	32.29	42.47	62.83	30.54	40.72	61.08	2.54480
5	22.62	21.05	9.05	20.69	21.13	8.46	0.12	0.28	13.92	20.92	33.18	43.65	64.57	31.38	41.85	62.77	2.61540
6	26.57	24.79	10.49	20.02	20.61	9.85	0.14	0.33	14.31	20.33	34.25	45.04	66.64	32.39	43.19	64.78	2.69917
7	30.26	28.32	11.79	19.30	20.03	11.12	0.17	0.39	14.75	19.69	35.46	46.64	69.00	33.54	44.72	67.08	2.79494
8	33.69	31.63	12.94	18.57	19.43	12.26	0.19	0.45	15.25	19.02	36.82	48.42	71.63	34.82	46.42	69.64	2.90152
9	36.87	34.72	13.96	17.83	18.80	13.27	0.22	0.50	15.80	18.33	38.29	50.36	74.50	36.21	48.28	72.43	3.01777
10	39.81	37.59	14.85	17.10	18.17	14.18	0.24	0.56	16.39	17.65	39.87	52.44	77.59	37.71	50.28	75.42	3.14260
11	42.51	40.26	15.64	16.39	17.54	14.99	0.26	0.61	17.02	16.98	41.55	54.65	80.86	39.30	52.40	78.60	3.27505
12	45.00	42.73	16.32	15.70	16.92	15.70	0.29	0.67	17.68	16.32	43.32	56.98	84.29	40.97	54.63	81.94	3.41421
13	47.29	45.02	16.93	15.04	16.32	16.33	0.31	0.73	18.38	15.69	45.16	59.40	87.87	42.71	56.95	85.42	3.55932
14	49.40	47.15	17.46	14.42	15.73	16.89	0.33	0.78	19.10	15.09	47.07	61.91	91.58	44.52	59.35	89.03	3.70966
15	51.34	49.11	17.92	13.83	15.17	17.39	0.36	0.84	19.84	14.51	49.04	64.49	95.41	46.38	61.83	92.75	3.86463
16	53.13	50.93	18.33	13.27	14.63	17.83	0.38	0.89	20.61	13.96	51.05	67.15	99.34	48.28	64.38	96.57	4.02369
17	54.78	52.62	18.70	12.75	14.12	18.22	0.41	0.95	21.39	13.43	53.12	69.86	103.35	50.24	66.98	100.47	4.18638
18	56.31	54.19	19.02	12.26	13.62	18.57	0.43	1.00	22.20	12.94	55.22	72.63	107.45	52.23	69.64	104.45	4.35229
19	57.72	55.64	19.30	11.79	13.16	18.88	0.45	1.06	23.02	12.47	57.36	75.45	111.62	54.25	72.34	108.51	4.52106
20	59.04	57.00	19.55	11.36	12.71	19.16	0.48	1.12	23.85	12.03	59.54	78.31	115.85	56.31	75.08	112.62	4.69239
21	60.26	58.26	19.78	10.94	12.29	19.41	0.50	1.17	24.69	11.61	61.74	81.20	120.13	58.39	77.86	116.78	4.86600
22	61.39	59.44	19.98	10.56	11.89	19.63	0.53	1.23	25.55	11.22	63.97	84.14	124.47	60.50	80.67	121.00	5.04167
23	62.45	60.55	20.17	10.20	11.51	19.83	0.55	1.28	26.41	10.85	66.22	87.10	128.85	62.63	83.51	125.26	5.21918
24	63.43	61.58	20.33	9.85	11.15	20.02	0.57	1.34	27.29	10.49	68.50	90.09	133.28	64.78	86.37	129.56	5.39835

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 15.25)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 31.63)
 Tongue (12.99) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 58.37)

Tongue (5.38) Blade (15.25) for Hip Side Cut Angle (SS Angle 19.43) (Saw Angle 67.50)
 Tongue (3.31) Blade (15.25) for Hip Backing Angle (SS Angle 12.26)

Tongue (4.97) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 19.02) (Saw Angle 67.50)

Tongue (3.31) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 12.94) (Saw Angle 12.26)
 Tongue (4.97) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 19.02)

Tongue (3.31) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 12.94) (Saw Angle 12.26)
 Tongue (4.97) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 19.02)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 31.63)
 Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50) (Saw Angle 22.50)

Tongue (3.31) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 12.94)
 Tongue (4.97) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 19.02) (Saw Angle 18.57)

Tongue (3.31) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 12.94)
 Tongue (4.97) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 19.02) (Saw Angle 18.57)

Tongue (0.88) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 4.18)
 Tongue (4.97) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 19.02) (Saw Bevel Angle 18.57)

9 Sided Polygon Rafter Table (9 - gon)

central angle = 40°
 working angle = 20°
 plan angle = 70°
 miter angle = 4.37 & 12 (20.00°)
 hip run per foot = 12.77
 apothem multiplier = 1.06418
 side wall multiplier = 0.72794

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	20	20.00	0.00	0.00	0.00	12.77	20	34.90	45.89	67.87	32.97	43.96	65.94	2.74748
1	4.76	4.48	1.73	19.93	19.94	1.63	0.02	0.05	12.81	19.94	35.02	46.05	68.10	33.08	44.11	66.17	2.75700
2	9.46	8.90	3.42	19.72	19.78	3.22	0.04	0.10	12.93	19.75	35.38	46.52	68.80	33.42	44.57	66.85	2.78538
3	14.04	13.22	5.04	19.38	19.51	4.76	0.06	0.15	13.12	19.45	35.97	47.30	69.96	33.98	45.31	67.97	2.83203
4	18.43	17.39	6.57	18.93	19.15	6.21	0.09	0.20	13.38	19.05	36.79	48.37	71.54	34.75	46.34	69.51	2.89610
5	22.62	21.38	7.97	18.40	18.72	7.56	0.11	0.25	13.71	18.57	37.81	49.71	73.52	35.72	47.62	71.43	2.97643
6	26.57	25.17	9.25	17.81	18.23	8.80	0.13	0.30	14.11	18.03	39.02	51.30	75.88	36.86	49.15	73.72	3.07177
7	30.26	28.73	10.39	17.18	17.70	9.92	0.15	0.35	14.56	17.45	40.40	53.12	78.57	38.17	50.89	76.34	3.18076
8	33.69	32.07	11.41	16.53	17.14	10.94	0.17	0.40	15.07	16.85	41.94	55.15	81.57	39.62	52.83	79.25	3.30206
9	36.87	35.18	12.32	15.88	16.57	11.84	0.19	0.45	15.62	16.23	43.62	57.36	84.83	41.21	54.95	82.42	3.43435
10	39.81	38.06	13.12	15.23	15.99	12.65	0.21	0.50	16.22	15.62	45.43	59.73	88.34	42.92	57.22	85.83	3.57641
11	42.51	40.74	13.82	14.60	15.42	13.36	0.24	0.55	16.85	15.02	47.34	62.25	92.07	44.73	59.63	89.45	3.72714
12	45.00	43.22	14.43	14.00	14.86	14.00	0.26	0.60	17.52	14.43	49.35	64.90	95.98	46.63	62.17	93.25	3.88552
13	47.29	45.51	14.97	13.41	14.31	14.56	0.28	0.65	18.22	13.87	51.45	67.65	100.06	48.61	64.81	97.22	4.05065
14	49.40	47.63	15.45	12.86	13.78	15.05	0.30	0.70	18.95	13.33	53.62	70.51	104.29	50.66	67.55	101.32	4.22175
15	51.34	49.59	15.87	12.34	13.28	15.49	0.32	0.75	19.70	12.81	55.86	73.46	108.64	52.78	70.37	105.55	4.39811
16	53.13	51.41	16.23	11.84	12.79	15.88	0.34	0.80	20.47	12.32	58.16	76.48	113.11	54.95	73.27	109.90	4.57913
17	54.78	53.09	16.56	11.38	12.33	16.23	0.36	0.85	21.26	11.85	60.52	79.57	117.69	57.17	76.23	114.34	4.76428
18	56.31	54.65	16.85	10.94	11.89	16.53	0.38	0.90	22.07	11.41	62.91	82.73	122.35	59.44	79.25	118.87	4.95309
19	57.72	56.09	17.10	10.52	11.48	16.81	0.41	0.95	22.89	11.00	65.35	85.93	127.09	61.74	82.32	123.48	5.14516
20	59.04	57.44	17.33	10.13	11.08	17.05	0.43	1.00	23.73	10.61	67.83	89.19	131.91	64.08	85.44	128.16	5.34014
21	60.26	58.70	17.54	9.77	10.71	17.27	0.45	1.05	24.58	10.24	70.34	92.49	136.79	66.45	88.60	132.91	5.53772
22	61.39	59.87	17.72	9.43	10.35	17.47	0.47	1.10	25.44	9.89	72.88	95.83	141.73	68.85	91.80	137.70	5.73763
23	62.45	60.96	17.88	9.10	10.02	17.65	0.49	1.15	26.31	9.56	75.44	99.20	146.72	71.28	95.03	142.55	5.93964
24	63.43	61.98	18.03	8.80	9.70	17.81	0.51	1.20	27.19	9.25	78.03	102.61	151.76	73.72	98.30	147.45	6.14355

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 15.07)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.77) for Hip Rafter Plumb Cut Angle (SS Angle 32.07)
 Tongue (12.77) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 57.93)

Tongue (4.65) Blade (15.07) for Hip Side Cut Angle (SS Angle 17.14) (Saw Angle 70.00)
 Tongue (2.91) Blade (15.07) for Hip Backing Angle (SS Angle 10.94)

Tongue (4.37) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 16.85) (Saw Angle 70.00)

Tongue (2.91) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 11.41) (Saw Angle 10.94)
 Tongue (4.37) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 16.85)

Tongue (2.91) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 11.41) (Saw Angle 10.94)
 Tongue (4.37) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 16.85)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.77) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 32.07)
 Tongue (4.37) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 20.00) (Saw Angle 20.00)

Tongue (2.91) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 11.41)
 Tongue (4.37) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 16.85) (Saw Angle 16.53)

Tongue (2.91) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 11.41)
 Tongue (4.37) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 16.85) (Saw Angle 16.53)

Tongue (0.69) Blade (4.37) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 3.29)
 Tongue (4.37) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 16.85) (Saw Bevel Angle 16.53)

10 Sided Polygon Rafter Table (10 - gon)

central angle = 36°
 working angle = 18°
 plan angle = 72°
 miter angle = 3.90 & 12 (18.00°)
 hip run per foot = 12.62
 apothem multiplier = 1.05146
 side wall multiplier = 0.64984

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	18	18.00	0.00	0.00	0.00	12.62	18	39.12	51.43	76.05	36.93	49.24	73.86	3.07768
1	4.76	4.53	1.55	17.94	17.95	1.47	0.02	0.05	12.66	17.94	39.26	51.61	76.32	37.06	49.41	74.12	3.08835
2	9.46	9.01	3.06	17.75	17.79	2.91	0.04	0.09	12.78	17.77	39.66	52.14	77.10	37.44	49.92	74.88	3.12014
3	14.04	13.37	4.51	17.45	17.54	4.30	0.06	0.14	12.97	17.50	40.33	53.02	78.39	38.07	50.76	76.14	3.17240
4	18.43	17.59	5.87	17.05	17.21	5.61	0.08	0.18	13.24	17.13	41.24	54.21	80.17	38.93	51.91	77.86	3.24416
5	22.62	21.62	7.12	16.57	16.81	6.83	0.10	0.23	13.57	16.70	42.38	55.72	82.39	40.01	53.35	80.02	3.33416
6	26.57	25.43	8.27	16.05	16.35	7.94	0.12	0.27	13.97	16.20	43.74	57.50	85.03	41.29	55.06	82.58	3.44095
7	30.26	29.02	9.30	15.48	15.86	8.96	0.14	0.32	14.43	15.68	45.29	59.54	88.05	42.76	57.01	85.51	3.56305
8	33.69	32.38	10.22	14.90	15.34	9.87	0.15	0.36	14.94	15.13	47.02	61.81	91.41	44.39	59.18	88.77	3.69892
9	36.87	35.50	11.03	14.31	14.82	10.69	0.17	0.41	15.50	14.57	48.90	64.29	95.07	46.17	61.55	92.33	3.84710
10	39.81	38.40	11.75	13.73	14.29	11.41	0.19	0.45	16.10	14.02	50.93	66.95	99.00	48.07	64.10	96.15	4.00625
11	42.51	41.08	12.38	13.17	13.76	12.05	0.21	0.50	16.74	13.47	53.07	69.77	103.17	50.10	66.80	100.20	4.17509
12	45.00	43.56	12.94	12.62	13.25	12.62	0.23	0.54	17.41	12.94	55.33	72.74	107.56	52.23	69.64	104.46	4.35250
13	47.29	45.86	13.43	12.10	12.75	13.12	0.25	0.59	18.12	12.43	57.68	75.83	112.13	54.45	72.60	108.90	4.53748
14	49.40	47.97	13.86	11.60	12.27	13.57	0.27	0.63	18.85	11.94	60.11	79.03	116.86	56.75	75.67	113.50	4.72914
15	51.34	49.93	14.24	11.13	11.81	13.96	0.29	0.68	19.60	11.47	62.63	82.33	121.75	59.12	78.83	118.24	4.92670
16	53.13	51.74	14.57	10.69	11.38	14.31	0.31	0.72	20.38	11.03	65.20	85.72	126.76	61.55	82.07	123.11	5.12947
17	54.78	53.42	14.87	10.27	10.96	14.62	0.33	0.77	21.17	10.61	67.84	89.19	131.88	64.04	85.39	128.08	5.33687
18	56.31	54.97	15.13	9.87	10.56	14.90	0.35	0.81	21.98	10.22	70.53	92.72	137.11	66.58	88.77	133.16	5.54837
19	57.72	56.41	15.36	9.50	10.19	15.15	0.37	0.86	22.81	9.84	73.26	96.32	142.42	69.16	92.22	138.32	5.76353
20	59.04	57.75	15.57	9.15	9.84	15.37	0.39	0.90	23.65	9.49	76.04	99.97	147.82	71.78	95.71	143.57	5.98194
21	60.26	59.00	15.75	8.82	9.50	15.56	0.41	0.95	24.50	9.16	78.85	103.67	153.29	74.44	99.25	148.88	6.20327
22	61.39	60.16	15.92	8.51	9.18	15.74	0.42	0.99	25.36	8.84	81.70	107.41	158.83	77.13	102.84	154.25	6.42721
23	62.45	61.25	16.07	8.22	8.88	15.90	0.44	1.04	26.23	8.55	84.58	111.19	164.42	79.84	106.46	159.68	6.65350
24	63.43	62.27	16.20	7.94	8.60	16.05	0.46	1.08	27.11	8.27	87.48	115.01	170.06	82.58	110.11	165.17	6.88191

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.94)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.62) for Hip Rafter Plumb Cut Angle (SS Angle 32.38)
 Tongue (12.62) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 57.62)

Tongue (4.10) Blade (14.94) for Hip Side Cut Angle (SS Angle 15.34) (Saw Angle 72.00)
 Tongue (2.60) Blade (14.94) for Hip Backing Angle (SS Angle 9.87)

Tongue (3.90) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 15.13) (Saw Angle 72.00)

Tongue (2.60) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 10.22) (Saw Angle 9.87)
 Tongue (3.90) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 15.13)

Tongue (2.60) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 10.22) (Saw Angle 9.87)
 Tongue (3.90) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 15.13)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.62) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 32.38)
 Tongue (3.90) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 18.00) (Saw Angle 18.00)

Tongue (2.60) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 10.22)
 Tongue (3.90) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 15.13) (Saw Angle 14.90)

Tongue (2.60) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 10.22)
 Tongue (3.90) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 15.13) (Saw Angle 14.90)

Tongue (0.56) Blade (3.90) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 2.65)
 Tongue (3.90) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 15.13) (Saw Bevel Angle 14.90)

11 Sided Polygon Rafter Table (11 - gon)

central angle = 32.727272727272°
 working angle = 16.3636363636364°
 plan angle = 73.6363636363636°
 miter angle = 3.52 & 12 (16.36°)
 hip run per foot = 12.51
 apothem multiplier = 1.04222
 side wall multiplier = 0.58725

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	16.3636363636364	16.36	0.00	0.00	0.00	12.51	16.3636363636364	43.31	56.94	84.18	40.87	54.49	81.74	3.40569
1	4.76	4.57	1.40	16.31	16.31	1.34	0.02	0.04	12.55	16.31	43.46	57.13	84.47	41.01	54.68	82.02	3.41749
2	9.46	9.09	2.76	16.13	16.17	2.65	0.04	0.08	12.67	16.15	43.91	57.72	85.34	41.43	55.24	82.86	3.45266
3	14.04	13.49	4.07	15.86	15.94	3.92	0.05	0.12	12.86	15.90	44.65	58.69	86.77	42.13	56.17	84.25	3.51050
4	18.43	17.74	5.30	15.50	15.62	5.11	0.07	0.16	13.13	15.57	45.66	60.02	88.74	43.08	57.44	86.16	3.58991
5	22.62	21.79	6.44	15.07	15.25	6.22	0.09	0.21	13.47	15.17	46.92	61.68	91.20	44.27	59.03	88.55	3.68949
6	26.57	25.63	7.48	14.60	14.83	7.24	0.11	0.25	13.87	14.72	48.43	63.66	94.12	45.69	60.92	91.38	3.80767
7	30.26	29.24	8.42	14.08	14.37	8.16	0.12	0.29	14.33	14.23	50.15	65.92	97.46	47.31	63.08	94.63	3.94278
8	33.69	32.61	9.25	13.56	13.89	8.99	0.14	0.33	14.85	13.73	52.06	68.43	101.18	49.12	65.49	98.24	4.09313
9	36.87	35.74	9.99	13.03	13.41	9.73	0.16	0.37	15.41	13.22	54.14	71.17	105.23	51.09	68.11	102.17	4.25711
10	39.81	38.65	10.65	12.50	12.92	10.39	0.18	0.41	16.01	12.71	56.38	74.12	109.58	53.20	70.93	106.40	4.43321
11	42.51	41.33	11.22	11.99	12.43	10.97	0.19	0.45	16.66	12.21	58.76	77.24	114.20	55.44	73.92	110.88	4.62005
12	45.00	43.82	11.73	11.49	11.96	11.49	0.21	0.49	17.33	11.73	61.26	80.52	119.05	57.80	77.06	115.59	4.81637
13	47.29	46.11	12.18	11.02	11.51	11.95	0.23	0.53	18.04	11.26	63.86	83.94	124.11	60.25	80.34	120.51	5.02106
14	49.40	48.22	12.57	10.56	11.07	12.35	0.25	0.58	18.77	10.82	66.56	87.49	129.35	62.80	83.73	125.60	5.23315
15	51.34	50.18	12.91	10.14	10.65	12.71	0.26	0.62	19.53	10.39	69.34	91.14	134.76	65.42	87.23	130.84	5.45176
16	53.13	51.99	13.22	9.73	10.25	13.03	0.28	0.66	20.31	9.99	72.19	94.90	140.30	68.11	90.82	136.23	5.67615
17	54.78	53.66	13.49	9.35	9.87	13.31	0.30	0.70	21.10	9.61	75.11	98.73	145.98	70.87	94.49	141.74	5.90565
18	56.31	55.21	13.73	8.99	9.51	13.56	0.32	0.74	21.92	9.25	78.09	102.65	151.76	73.68	98.24	147.35	6.13969
19	57.72	56.65	13.94	8.65	9.17	13.78	0.33	0.78	22.75	8.91	81.11	106.63	157.65	76.53	102.04	153.07	6.37778
20	59.04	57.98	14.13	8.33	8.85	13.98	0.35	0.82	23.59	8.59	84.19	110.67	163.62	79.43	105.91	158.87	6.61947
21	60.26	59.22	14.30	8.04	8.54	14.16	0.37	0.86	24.44	8.29	87.30	114.76	169.68	82.37	109.83	164.75	6.86438
22	61.39	60.38	14.45	7.75	8.26	14.32	0.39	0.90	25.31	8.00	90.46	118.90	175.80	85.35	113.80	170.69	7.11219
23	62.45	61.46	14.59	7.49	7.98	14.46	0.40	0.94	26.18	7.73	93.64	123.09	181.99	88.35	117.80	176.70	7.36260
24	63.43	62.48	14.72	7.24	7.73	14.60	0.42	0.99	27.06	7.48	96.85	127.32	188.24	91.38	121.85	182.77	7.61535

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.85)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.51) for Hip Rafter Plumb Cut Angle (SS Angle 32.61)
 Tongue (12.51) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 57.39)

Tongue (3.67) Blade (14.85) for Hip Side Cut Angle (SS Angle 13.89) (Saw Angle 73.64)
 Tongue (2.35) Blade (14.85) for Hip Backing Angle (SS Angle 8.99)

Tongue (3.52) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 13.73) (Saw Angle 73.64)

Tongue (2.35) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 9.25) (Saw Angle 8.99)
 Tongue (3.52) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 13.73)

Tongue (2.35) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 9.25) (Saw Angle 8.99)
 Tongue (3.52) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 13.73)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.51) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 32.61)
 Tongue (3.52) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 16.36) (Saw Angle 16.36)

Tongue (2.35) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 9.25)
 Tongue (3.52) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 13.73) (Saw Angle 13.56)

Tongue (2.35) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 9.25)
 Tongue (3.52) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 13.73) (Saw Angle 13.56)

Tongue (0.46) Blade (3.52) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 2.19)
 Tongue (3.52) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 13.73) (Saw Bevel Angle 13.56)

12 Sided Polygon Rafter Table (12 - gon)

central angle = 30°
 working angle = 15°
 plan angle = 75°
 miter angle = 3.22 & 12 (15.00°)
 hip run per foot = 12.42
 apothem multiplier = 1.03528
 side wall multiplier = 0.53590

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	15	15.00	0.00	0.00	0.00	12.42	15	47.48	62.41	92.27	44.78	59.71	89.57	3.73205
1	4.76	4.60	1.27	14.95	14.95	1.23	0.02	0.04	12.46	14.95	47.65	62.63	92.59	44.94	59.92	89.88	3.74499
2	9.46	9.15	2.52	14.79	14.82	2.44	0.03	0.08	12.58	14.80	48.14	63.27	93.54	45.40	60.54	90.80	3.78353
3	14.04	13.58	3.72	14.54	14.60	3.60	0.05	0.11	12.78	14.57	48.95	64.33	95.11	46.16	61.55	92.33	3.84691
4	18.43	17.85	4.84	14.21	14.31	4.69	0.06	0.15	13.05	14.26	50.05	65.79	97.26	47.21	62.94	94.41	3.93393
5	22.62	21.92	5.88	13.82	13.96	5.71	0.08	0.19	13.39	13.89	51.44	67.61	99.96	48.52	64.69	97.03	4.04306
6	26.57	25.78	6.83	13.39	13.57	6.65	0.10	0.23	13.80	13.48	53.09	69.78	103.16	50.07	66.76	100.14	4.17256
7	30.26	29.40	7.69	12.92	13.14	7.49	0.11	0.26	14.26	13.03	54.97	72.26	106.82	51.85	69.13	103.69	4.32061
8	33.69	32.78	8.45	12.44	12.70	8.25	0.13	0.30	14.78	12.57	57.07	75.01	110.89	53.82	71.77	107.65	4.48537
9	36.87	35.92	9.13	11.95	12.24	8.93	0.15	0.34	15.34	12.10	59.36	78.02	115.34	55.98	74.64	111.96	4.66506
10	39.81	38.83	9.73	11.47	11.79	9.54	0.16	0.38	15.95	11.63	61.81	81.24	120.11	58.30	77.73	116.59	4.85804
11	42.51	41.52	10.26	11.00	11.34	10.07	0.18	0.42	16.59	11.17	64.42	84.67	125.17	60.75	81.00	121.51	5.06278
12	45.00	44.01	10.73	10.55	10.91	10.55	0.19	0.45	17.27	10.73	67.15	88.27	130.49	63.34	84.45	126.67	5.27792
13	47.29	46.30	11.14	10.11	10.49	10.96	0.21	0.49	17.98	10.30	70.01	92.02	136.03	66.03	88.04	132.05	5.50223
14	49.40	48.41	11.50	9.70	10.08	11.33	0.23	0.53	18.72	9.89	72.96	95.90	141.78	68.82	91.75	137.63	5.73463
15	51.34	50.37	11.82	9.30	9.70	11.66	0.24	0.57	19.48	9.50	76.01	99.91	147.70	71.69	95.59	143.38	5.97420
16	53.13	52.17	12.10	8.93	9.33	11.95	0.26	0.60	20.26	9.13	79.14	104.02	153.78	74.64	99.52	149.28	6.22008
17	54.78	53.84	12.35	8.58	8.98	12.21	0.27	0.64	21.06	8.78	82.34	108.23	160.00	77.66	103.55	155.32	6.47158
18	56.31	55.39	12.57	8.25	8.65	12.44	0.29	0.68	21.87	8.45	85.60	112.52	166.34	80.74	107.65	161.47	6.72805
19	57.72	56.82	12.76	7.94	8.34	12.64	0.31	0.72	22.70	8.14	88.92	116.88	172.79	83.87	111.82	167.73	6.98895
20	59.04	58.15	12.94	7.65	8.05	12.82	0.32	0.75	23.54	7.85	92.29	121.31	179.34	87.05	116.06	174.09	7.25380
21	60.26	59.39	13.10	7.38	7.77	12.99	0.34	0.79	24.40	7.57	95.71	125.80	185.98	90.27	120.36	180.53	7.52219
22	61.39	60.55	13.24	7.12	7.51	13.13	0.36	0.83	25.27	7.31	99.16	130.34	192.69	93.52	124.70	187.05	7.79374
23	62.45	61.62	13.36	6.88	7.26	13.27	0.37	0.87	26.14	7.07	102.66	134.93	199.47	96.82	129.09	193.64	8.06815
24	63.43	62.63	13.48	6.65	7.02	13.39	0.39	0.91	27.02	6.83	106.18	139.56	206.32	100.14	133.52	200.28	8.34512

Framing Square usage Example: 8:12 Pitch

(Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.78)

SS Angle = Speed Square Angle

Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)

Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.42) for Hip Rafter Plumb Cut Angle (SS Angle 32.78)

Tongue (12.42) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 57.22)

Tongue (3.33) Blade (14.78) for Hip Side Cut Angle (SS Angle 12.70) (Saw Angle 75.00)

Tongue (2.14) Blade (14.78) for Hip Backing Angle (SS Angle 8.25)

Tongue (3.22) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 12.57) (Saw Angle 75.00)

Tongue (2.14) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 8.45) (Saw Angle 8.25)

Tongue (3.22) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 12.57)

Tongue (2.14) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 8.45) (Saw Angle 8.25)

Tongue (3.22) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 12.57)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)

Tongue (8.00) Blade (12.42) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 32.78)

Tongue (3.22) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 15.00) (Saw Angle 15.00)

Tongue (2.14) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 8.45)

Tongue (3.22) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 12.57) (Saw Angle 12.44)

Tongue (2.14) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 8.45)

Tongue (3.22) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 12.57) (Saw Angle 12.44)

Tongue (0.38) Blade (3.22) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 1.83)

Tongue (3.22) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 12.57) (Saw Bevel Angle 12.44)

16 Sided Polygon Rafter Table (16 - gon)

central angle = 22.5°
 working angle = 11.25°
 plan angle = 78.75°
 miter angle = 2.39 & 12 (11.25°)
 hip run per foot = 12.24
 apothem multiplier = 1.01959
 side wall multiplier = 0.39782

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	11.25	11.25	0.00	0.00	0.00	12.24	11.25	64.02	84.13	124.35	60.33	80.44	120.66	5.02734
1	4.76	4.67	0.95	11.21	11.21	0.93	0.01	0.03	12.28	11.21	64.25	84.43	124.78	60.54	80.72	121.07	5.04477
2	9.46	9.28	1.87	11.09	11.11	1.84	0.02	0.06	12.40	11.10	64.91	85.29	126.07	61.16	81.55	122.32	5.09669
3	14.04	13.78	2.76	10.91	10.93	2.71	0.04	0.09	12.60	10.92	66.00	86.72	128.18	62.18	82.91	124.37	5.18206
4	18.43	18.10	3.60	10.67	10.71	3.54	0.05	0.11	12.87	10.69	67.49	88.69	131.08	63.59	84.79	127.18	5.29928
5	22.62	22.23	4.37	10.37	10.43	4.30	0.06	0.14	13.22	10.40	69.36	91.15	134.72	65.36	87.14	130.71	5.44628
6	26.57	26.12	5.08	10.05	10.13	5.01	0.07	0.17	13.63	10.09	71.58	94.06	139.03	67.45	89.93	134.90	5.62074
7	30.26	29.77	5.72	9.70	9.80	5.64	0.09	0.20	14.10	9.75	74.12	97.40	143.96	69.84	93.12	139.68	5.82017
8	33.69	33.18	6.30	9.34	9.45	6.21	0.10	0.23	14.62	9.40	76.95	101.12	149.45	72.51	96.67	145.01	6.04211
9	36.87	36.34	6.81	8.98	9.10	6.72	0.11	0.26	15.19	9.04	80.03	105.17	155.44	75.41	100.55	150.82	6.28417
10	39.81	39.26	7.26	8.62	8.76	7.17	0.12	0.28	15.80	8.69	83.34	109.52	161.87	78.53	104.71	157.06	6.54413
11	42.51	41.96	7.66	8.27	8.41	7.58	0.13	0.31	16.45	8.34	86.85	114.13	168.69	81.84	109.12	163.68	6.81993
12	45.00	44.44	8.01	7.93	8.08	7.93	0.15	0.34	17.14	8.01	90.54	118.98	175.86	85.32	113.76	170.63	7.10973
13	47.29	46.74	8.32	7.60	7.76	8.24	0.16	0.37	17.85	7.68	94.39	124.04	183.34	88.94	118.59	177.89	7.41189
14	49.40	48.85	8.59	7.29	7.46	8.52	0.17	0.40	18.59	7.38	98.38	129.28	191.08	92.70	123.60	185.40	7.72496
15	51.34	50.80	8.83	7.00	7.17	8.76	0.18	0.43	19.36	7.08	102.49	134.68	199.06	96.57	128.76	193.14	8.04767
16	53.13	52.60	9.04	6.72	6.89	8.98	0.20	0.46	20.14	6.81	106.71	140.22	207.25	100.55	134.06	201.09	8.37890
17	54.78	54.26	9.23	6.46	6.63	9.17	0.21	0.48	20.95	6.54	111.02	145.89	215.63	104.61	139.48	209.22	8.71768
18	56.31	55.79	9.40	6.21	6.38	9.34	0.22	0.51	21.76	6.30	115.42	151.67	224.18	108.76	145.01	217.52	9.06317
19	57.72	57.22	9.55	5.98	6.15	9.49	0.23	0.54	22.60	6.06	119.90	157.56	232.87	112.98	150.63	225.95	9.41462
20	59.04	58.54	9.68	5.76	5.93	9.63	0.24	0.57	23.45	5.84	124.44	163.53	241.70	117.26	156.34	234.51	9.77139
21	60.26	59.77	9.80	5.55	5.72	9.75	0.26	0.60	24.30	5.64	129.05	169.58	250.64	121.60	162.13	243.19	10.13293
22	61.39	60.92	9.91	5.36	5.52	9.86	0.27	0.63	25.17	5.44	133.70	175.70	259.69	125.98	167.98	251.97	10.49873
23	62.45	61.99	10.00	5.18	5.34	9.96	0.28	0.65	26.05	5.26	138.41	181.89	268.83	130.42	173.89	260.84	10.86837
24	63.43	62.99	10.09	5.01	5.16	10.05	0.29	0.68	26.94	5.08	143.16	188.13	278.06	134.90	179.86	269.80	11.24147

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.62)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.24) for Hip Rafter Plumb Cut Angle (SS Angle 33.18)
 Tongue (12.24) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.82)

Tongue (2.43) Blade (14.62) for Hip Side Cut Angle (SS Angle 9.45) (Saw Angle 78.75)
 Tongue (1.59) Blade (14.62) for Hip Backing Angle (SS Angle 6.21)

Tongue (2.39) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 9.40) (Saw Angle 78.75)

Tongue (1.59) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 6.30) (Saw Angle 6.21)
 Tongue (2.39) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 9.40)

Tongue (1.59) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 6.30) (Saw Angle 6.21)
 Tongue (2.39) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 9.40)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.24) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.18)
 Tongue (2.39) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 11.25) (Saw Angle 11.25)

Tongue (1.59) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 6.30)
 Tongue (2.39) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 9.40) (Saw Angle 9.34)

Tongue (1.59) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 6.30)
 Tongue (2.39) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 9.40) (Saw Angle 9.34)

Tongue (0.21) Blade (2.39) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 1.03)
 Tongue (2.39) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 9.40) (Saw Bevel Angle 9.34)

24 Sided Polygon Rafter Table (24 - gon)

central angle = 15°
 working angle = 7.5°
 plan angle = 82.5°
 miter angle = 1.58 & 12 (7.50°)
 hip run per foot = 12.10
 apothem multiplier = 1.00863
 side wall multiplier = 0.26330

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	7.5	7.50	0.00	0.00	0.00	12.10	7.5	96.80	127.18	187.95	91.15	121.53	182.30	7.59575
1	4.76	4.72	0.63	7.47	7.47	0.62	0.01	0.02	12.14	7.47	97.13	127.62	188.60	91.46	121.95	182.93	7.62208
2	9.46	9.38	1.24	7.40	7.40	1.23	0.02	0.04	12.27	7.40	98.13	128.93	190.54	92.41	123.21	184.81	7.70053
3	14.04	13.92	1.83	7.27	7.28	1.81	0.02	0.06	12.47	7.28	99.78	131.09	193.73	93.95	125.27	187.91	7.82952
4	18.43	18.29	2.38	7.11	7.13	2.37	0.03	0.08	12.75	7.12	102.03	134.06	198.11	96.08	128.11	192.16	8.00663
5	22.62	22.45	2.90	6.92	6.94	2.88	0.04	0.10	13.10	6.93	104.86	137.78	203.61	98.74	131.66	197.49	8.22873
6	26.57	26.37	3.37	6.70	6.73	3.35	0.05	0.11	13.51	6.72	108.22	142.19	210.13	101.91	135.88	203.82	8.49231
7	30.26	30.04	3.80	6.47	6.50	3.77	0.06	0.13	13.98	6.49	112.06	147.24	217.59	105.52	140.70	211.05	8.79363
8	33.69	33.46	4.18	6.23	6.27	4.15	0.07	0.15	14.51	6.25	116.34	152.85	225.88	109.55	146.06	219.10	9.12896
9	36.87	36.63	4.52	5.99	6.03	4.49	0.07	0.17	15.08	6.01	121.00	158.97	234.93	113.94	151.92	227.87	9.49469
10	39.81	39.56	4.82	5.75	5.80	4.79	0.08	0.19	15.70	5.78	126.00	165.55	244.65	118.65	158.20	237.30	9.88746
11	42.51	42.27	5.08	5.52	5.56	5.06	0.09	0.21	16.36	5.54	131.31	172.53	254.96	123.65	164.87	247.30	10.30416
12	45.00	44.75	5.32	5.30	5.34	5.30	0.10	0.23	17.04	5.32	136.89	179.86	265.80	128.90	171.87	257.81	10.74202
13	47.29	47.05	5.53	5.08	5.13	5.50	0.11	0.25	17.76	5.10	142.71	187.50	277.09	134.38	179.18	268.77	11.19855
14	49.40	49.16	5.71	4.87	4.92	5.69	0.11	0.27	18.51	4.90	148.74	195.42	288.80	140.06	186.75	280.12	11.67157
15	51.34	51.10	5.87	4.68	4.73	5.85	0.12	0.29	19.27	4.70	154.95	203.59	300.86	145.91	194.55	291.82	12.15914
16	53.13	52.89	6.01	4.49	4.54	5.99	0.13	0.30	20.06	4.52	161.33	211.97	313.24	151.92	202.55	303.83	12.65959
17	54.78	54.55	6.14	4.32	4.37	6.12	0.14	0.32	20.87	4.34	167.85	220.54	325.91	158.06	210.74	316.11	13.17145
18	56.31	56.08	6.25	4.15	4.20	6.23	0.15	0.34	21.69	4.18	174.50	229.28	338.82	164.32	219.10	328.64	13.69344
19	57.72	57.50	6.35	4.00	4.05	6.34	0.15	0.36	22.53	4.02	181.27	238.17	351.96	170.69	227.59	341.39	14.22445
20	59.04	58.82	6.44	3.85	3.90	6.43	0.16	0.38	23.38	3.87	188.14	247.19	365.30	177.16	236.22	354.32	14.76349
21	60.26	60.04	6.52	3.71	3.76	6.51	0.17	0.40	24.24	3.74	195.10	256.34	378.82	183.72	244.96	367.43	15.30973
22	61.39	61.18	6.59	3.58	3.63	6.58	0.18	0.42	25.11	3.61	202.14	265.59	392.49	190.35	253.80	380.70	15.86242
23	62.45	62.24	6.66	3.46	3.51	6.65	0.19	0.44	25.99	3.48	209.26	274.94	406.31	197.05	262.73	394.10	16.42091
24	63.43	63.24	6.72	3.35	3.39	6.70	0.20	0.46	26.88	3.37	216.44	284.38	420.26	203.82	271.75	407.63	16.98462

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.51)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.10) for Hip Rafter Plumb Cut Angle (SS Angle 33.46)
 Tongue (12.10) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.54)

Tongue (1.59) Blade (14.51) for Hip Side Cut Angle (SS Angle 6.27) (Saw Angle 82.50)
 Tongue (1.05) Blade (14.51) for Hip Backing Angle (SS Angle 4.15)

Tongue (1.58) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 6.25) (Saw Angle 82.50)

Tongue (1.05) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 4.18) (Saw Angle 4.15)
 Tongue (1.58) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 6.25)

Tongue (1.05) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 4.18) (Saw Angle 4.15)
 Tongue (1.58) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 6.25)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.10) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.46)
 Tongue (1.58) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 7.50) (Saw Angle 7.50)

Tongue (1.05) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 4.18)
 Tongue (1.58) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 6.25) (Saw Angle 6.23)

Tongue (1.05) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 4.18)
 Tongue (1.58) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 6.25) (Saw Angle 6.23)

Tongue (0.10) Blade (1.58) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.45)
 Tongue (1.58) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 6.25) (Saw Bevel Angle 6.23)

32 Sided Polygon Rafter Table (32 - gon)

central angle = 11.25°
 working angle = 5.625°
 plan angle = 84.375°
 miter angle = 1.18 & 12 (5.63°)
 hip run per foot = 12.06
 apothem multiplier = 1.00484
 side wall multiplier = 0.19698

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	5.625	5.63	0.00	0.00	0.00	12.06	5.625	129.42	170.03	251.25	121.84	162.45	243.68	10.15317
1	4.76	4.74	0.47	5.61	5.61	0.47	0.01	0.01	12.10	5.61	129.86	170.62	252.13	122.26	163.01	244.52	10.18836
2	9.46	9.42	0.93	5.55	5.55	0.92	0.01	0.03	12.22	5.55	131.20	172.37	254.72	123.52	164.69	247.04	10.29322
3	14.04	13.97	1.37	5.46	5.46	1.36	0.02	0.04	12.43	5.46	133.40	175.26	258.99	125.59	167.45	251.18	10.46565
4	18.43	18.35	1.78	5.34	5.34	1.78	0.02	0.06	12.70	5.34	136.42	179.23	264.85	128.43	171.24	256.86	10.70238
5	22.62	22.52	2.17	5.19	5.20	2.16	0.03	0.07	13.05	5.19	140.20	184.20	272.19	131.99	175.99	263.98	10.99927
6	26.57	26.45	2.52	5.03	5.04	2.51	0.04	0.09	13.47	5.03	144.69	190.10	280.91	136.22	181.63	272.44	11.35159
7	30.26	30.14	2.84	4.86	4.87	2.83	0.04	0.10	13.94	4.86	149.83	196.84	290.88	141.05	188.07	282.10	11.75436
8	33.69	33.56	3.13	4.68	4.69	3.12	0.05	0.11	14.47	4.68	155.54	204.35	301.97	146.43	195.24	292.86	12.20259
9	36.87	36.74	3.38	4.50	4.51	3.37	0.06	0.13	15.05	4.51	161.77	212.54	314.07	152.30	203.06	304.60	12.69146
10	39.81	39.67	3.61	4.32	4.34	3.60	0.06	0.14	15.67	4.33	168.46	221.33	327.06	158.60	211.46	317.20	13.21647
11	42.51	42.37	3.81	4.14	4.16	3.80	0.07	0.16	16.32	4.15	175.56	230.66	340.84	165.28	220.38	330.56	13.77347
12	45.00	44.86	3.98	3.97	3.99	3.97	0.07	0.17	17.01	3.98	183.02	240.46	355.33	172.31	229.74	344.61	14.35875
13	47.29	47.15	4.14	3.81	3.83	4.13	0.08	0.19	17.73	3.82	190.80	250.68	370.43	179.63	239.50	359.26	14.96899
14	49.40	49.26	4.28	3.66	3.68	4.27	0.09	0.20	18.48	3.67	198.86	261.26	386.07	187.22	249.62	374.43	15.60127
15	51.34	51.21	4.40	3.51	3.53	4.39	0.09	0.21	19.25	3.52	207.17	272.18	402.20	195.04	260.05	390.07	16.25300
16	53.13	53.00	4.51	3.37	3.39	4.50	0.10	0.23	20.03	3.38	215.69	283.38	418.76	203.06	270.75	406.13	16.92195
17	54.78	54.65	4.60	3.24	3.26	4.59	0.10	0.24	20.84	3.25	224.41	294.84	435.69	211.27	281.70	422.55	17.60615
18	56.31	56.18	4.68	3.12	3.14	4.68	0.11	0.26	21.67	3.13	233.31	306.52	452.95	219.65	292.86	439.29	18.30389
19	57.72	57.60	4.76	3.00	3.02	4.75	0.12	0.27	22.50	3.01	242.36	318.41	470.52	228.16	304.22	456.33	19.01368
20	59.04	58.91	4.83	2.89	2.91	4.82	0.12	0.29	23.35	2.90	251.54	330.48	488.35	236.81	315.75	473.62	19.73422
21	60.26	60.14	4.89	2.79	2.81	4.88	0.13	0.30	24.22	2.80	260.85	342.70	506.42	245.57	327.43	491.14	20.46437
22	61.39	61.27	4.94	2.69	2.71	4.94	0.13	0.31	25.09	2.70	270.26	355.08	524.70	254.44	339.25	508.88	21.20314
23	62.45	62.33	4.99	2.60	2.62	4.99	0.14	0.33	25.97	2.61	279.78	367.58	543.17	263.40	351.19	526.79	21.94967
24	63.43	63.32	5.03	2.51	2.53	5.03	0.15	0.34	26.86	2.52	289.38	380.20	561.82	272.44	363.25	544.88	22.70318

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.47)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.06) for Hip Rafter Plumb Cut Angle (SS Angle 33.56)
 Tongue (12.06) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.44)

Tongue (1.19) Blade (14.47) for Hip Side Cut Angle (SS Angle 4.69) (Saw Angle 84.38)
 Tongue (0.79) Blade (14.47) for Hip Backing Angle (SS Angle 3.12)

Tongue (1.18) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 4.68) (Saw Angle 84.38)

Tongue (0.79) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 3.13) (Saw Angle 3.12)
 Tongue (1.18) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 4.68)

Tongue (0.79) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 3.13) (Saw Angle 3.12)
 Tongue (1.18) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 4.68)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.06) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.56)
 Tongue (1.18) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 5.63) (Saw Angle 5.63)

Tongue (0.79) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 3.13)
 Tongue (1.18) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 4.68) (Saw Angle 4.68)

Tongue (0.79) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 3.13)
 Tongue (1.18) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 4.68) (Saw Angle 4.68)

Tongue (0.05) Blade (1.18) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.26)
 Tongue (1.18) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 4.68) (Saw Angle 4.68)

36 Sided Polygon Rafter Table (36 - gon)

central angle = 10°
 working angle = 5°
 plan angle = 85°
 miter angle = 1.05 & 12 (5.00°)
 hip run per foot = 12.05
 apothem multiplier = 1.00382
 side wall multiplier = 0.17498

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	5	5.00	0.00	0.00	0.00	12.05	5	145.70	191.42	282.86	137.16	182.88	274.32	11.43005
1	4.76	4.75	0.42	4.98	4.98	0.41	0.01	0.01	12.09	4.98	146.21	192.08	283.84	137.64	183.51	275.27	11.46967
2	9.46	9.43	0.82	4.93	4.93	0.82	0.01	0.03	12.21	4.93	147.71	194.06	286.76	139.05	185.40	278.11	11.58772
3	14.04	13.98	1.22	4.85	4.85	1.21	0.02	0.04	12.41	4.85	150.18	197.31	291.57	141.38	188.51	282.76	11.78183
4	18.43	18.37	1.58	4.74	4.75	1.58	0.02	0.05	12.69	4.74	153.58	201.78	298.16	144.58	192.77	289.16	12.04833
5	22.62	22.54	1.93	4.61	4.62	1.92	0.03	0.06	13.04	4.62	157.84	207.37	306.43	148.59	198.12	297.18	12.38256
6	26.57	26.48	2.24	4.47	4.48	2.23	0.03	0.08	13.46	4.47	162.90	214.01	316.25	153.35	204.47	306.70	12.77919
7	30.26	30.16	2.52	4.32	4.33	2.52	0.04	0.09	13.93	4.32	168.68	221.61	327.47	158.79	211.72	317.58	13.23261
8	33.69	33.59	2.78	4.16	4.17	2.77	0.04	0.10	14.46	4.16	175.11	230.06	339.96	164.85	219.80	329.69	13.73721
9	36.87	36.77	3.00	4.00	4.01	3.00	0.05	0.11	15.04	4.00	182.13	239.28	353.58	171.45	228.60	342.90	14.28757
10	39.81	39.70	3.21	3.84	3.85	3.20	0.05	0.13	15.66	3.85	189.66	249.17	368.20	178.54	238.06	357.09	14.87859
11	42.51	42.40	3.38	3.68	3.70	3.38	0.06	0.14	16.31	3.69	197.65	259.68	383.72	186.07	248.09	372.14	15.50565
12	45.00	44.89	3.54	3.53	3.55	3.53	0.07	0.15	17.00	3.54	206.05	270.71	400.03	193.97	258.63	387.95	16.16453
13	47.29	47.18	3.68	3.39	3.40	3.67	0.07	0.17	17.72	3.40	214.81	282.21	417.03	202.22	269.62	404.44	16.85152
14	49.40	49.29	3.80	3.25	3.27	3.79	0.08	0.18	18.47	3.26	223.88	294.14	434.64	210.76	281.01	421.52	17.56331
15	51.34	51.23	3.91	3.12	3.14	3.90	0.08	0.19	19.24	3.13	233.23	306.42	452.80	219.56	292.75	439.13	18.29701
16	53.13	53.03	4.00	3.00	3.01	4.00	0.09	0.20	20.03	3.00	242.83	319.03	471.44	228.60	304.80	457.20	19.05009
17	54.78	54.68	4.09	2.88	2.90	4.08	0.09	0.22	20.84	2.89	252.65	331.93	490.50	237.84	317.13	475.69	19.82033
18	56.31	56.21	4.16	2.77	2.79	4.16	0.10	0.23	21.66	2.78	262.67	345.09	509.94	247.27	329.69	494.54	20.60582
19	57.72	57.63	4.23	2.67	2.68	4.23	0.10	0.24	22.50	2.67	272.85	358.47	529.71	256.86	342.48	513.72	21.40487
20	59.04	58.94	4.29	2.57	2.58	4.29	0.11	0.25	23.35	2.58	283.19	372.05	549.78	266.59	355.46	533.18	22.21603
21	60.26	60.16	4.34	2.48	2.49	4.34	0.11	0.27	24.21	2.49	293.67	385.82	570.12	276.46	368.61	552.91	23.03801
22	61.39	61.30	4.39	2.39	2.41	4.39	0.12	0.28	25.08	2.40	304.27	399.75	590.71	286.44	381.92	572.87	23.86969
23	62.45	62.36	4.44	2.31	2.32	4.43	0.13	0.29	25.96	2.32	314.98	413.82	611.50	296.52	395.36	593.04	24.71010
24	63.43	63.35	4.47	2.23	2.25	4.47	0.13	0.31	26.85	2.24	325.80	428.03	632.50	306.70	408.93	613.40	25.55837

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.46)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.05) for Hip Rafter Plumb Cut Angle (SS Angle 33.59)
 Tongue (12.05) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.41)

Tongue (1.05) Blade (14.46) for Hip Side Cut Angle (SS Angle 4.17) (Saw Angle 85.00)
 Tongue (0.70) Blade (14.46) for Hip Backing Angle (SS Angle 2.77)

Tongue (1.05) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 4.16) (Saw Angle 85.00)

Tongue (0.70) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 2.78) (Saw Angle 2.77)
 Tongue (1.05) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 4.16)

Tongue (0.70) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 2.78) (Saw Angle 2.77)
 Tongue (1.05) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 4.16)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.05) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.59)
 Tongue (1.05) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 5.00) (Saw Angle 5.00)

Tongue (0.70) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 2.78)
 Tongue (1.05) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 4.16) (Saw Angle 4.16)

Tongue (0.70) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 2.78)
 Tongue (1.05) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 4.16) (Saw Angle 4.16)

Tongue (0.04) Blade (1.05) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.20)
 Tongue (1.05) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 4.16) (Saw Bevel Angle 4.16)

42 Sided Polygon Rafter Table (42 - gon)

central angle = 8.57142857142857°
 working angle = 4.28571428571429°
 plan angle = 85.7142857142857°
 miter angle = 0.90 & 12 (4.29°)
 hip run per foot = 12.03
 apothem multiplier = 1.00280
 side wall multiplier = 0.14988

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	4.28571428571429	4.29	0.00	0.00	0.00	12.03	4.28571428571429	170.11	223.49	330.24	160.13	213.51	320.26	13.34407
1	4.76	4.75	0.36	4.27	4.27	0.36	0.00	0.01	12.08	4.27	170.70	224.26	331.38	160.68	214.25	321.37	13.39033
2	9.46	9.44	0.71	4.23	4.23	0.70	0.01	0.02	12.20	4.23	172.46	226.57	334.79	162.34	216.45	324.68	13.52814
3	14.04	14.00	1.04	4.16	4.16	1.04	0.01	0.03	12.40	4.16	175.34	230.36	340.40	165.06	220.08	330.11	13.75476
4	18.43	18.39	1.36	4.07	4.07	1.35	0.02	0.04	12.68	4.07	179.31	235.57	348.10	168.79	225.05	337.58	14.06589
5	22.62	22.56	1.65	3.96	3.96	1.65	0.02	0.05	13.03	3.96	184.28	242.11	357.76	173.47	231.30	346.95	14.45608
6	26.57	26.50	1.92	3.83	3.84	1.92	0.03	0.07	13.45	3.83	190.19	249.86	369.22	179.03	238.71	358.06	14.91913
7	30.26	30.19	2.16	3.70	3.71	2.16	0.03	0.08	13.92	3.70	196.94	258.73	382.32	185.38	247.18	370.76	15.44848
8	33.69	33.62	2.38	3.56	3.57	2.38	0.04	0.09	14.45	3.57	204.45	268.60	396.90	192.45	256.60	384.90	16.03758
9	36.87	36.79	2.57	3.43	3.43	2.57	0.04	0.10	15.03	3.43	212.64	279.36	412.80	200.16	266.88	400.32	16.68009
10	39.81	39.73	2.75	3.29	3.30	2.74	0.05	0.11	15.65	3.29	221.43	290.91	429.87	208.44	277.92	416.88	17.37009
11	42.51	42.43	2.90	3.16	3.17	2.89	0.05	0.12	16.30	3.16	230.76	303.17	447.99	217.23	289.63	434.45	18.10215
12	45.00	44.92	3.03	3.03	3.04	3.03	0.06	0.13	16.99	3.03	240.57	316.06	467.03	226.46	301.94	452.91	18.87137
13	47.29	47.21	3.15	2.91	2.91	3.15	0.06	0.14	17.71	2.91	250.79	329.49	486.88	236.08	314.77	472.16	19.67340
14	49.40	49.32	3.26	2.79	2.80	3.25	0.07	0.15	18.46	2.79	261.39	343.41	507.44	246.05	328.07	492.11	20.50438
15	51.34	51.26	3.35	2.68	2.68	3.35	0.07	0.16	19.23	2.68	272.31	357.75	528.64	256.33	341.78	512.66	21.36094
16	53.13	53.05	3.43	2.57	2.58	3.43	0.07	0.17	20.02	2.57	283.51	372.48	550.40	266.88	355.84	533.76	22.24012
17	54.78	54.71	3.50	2.47	2.48	3.50	0.08	0.19	20.83	2.47	294.98	387.54	572.65	277.67	370.23	555.34	23.13935
18	56.31	56.24	3.57	2.38	2.38	3.56	0.08	0.20	21.65	2.38	306.67	402.89	595.34	288.68	384.90	577.35	24.05637
19	57.72	57.65	3.63	2.29	2.30	3.62	0.09	0.21	22.49	2.29	318.56	418.52	618.43	299.87	399.83	599.74	24.98923
20	59.04	58.97	3.68	2.20	2.21	3.67	0.09	0.22	23.34	2.21	330.63	434.38	641.87	311.23	414.98	622.47	25.93622
21	60.26	60.19	3.72	2.12	2.13	3.72	0.10	0.23	24.20	2.13	342.87	450.45	665.62	322.75	430.33	645.50	26.89584
22	61.39	61.32	3.76	2.05	2.06	3.76	0.10	0.24	25.08	2.06	355.24	466.71	689.64	334.40	445.87	668.80	27.86679
23	62.45	62.38	3.80	1.98	1.99	3.80	0.11	0.25	25.96	1.99	367.75	483.14	713.93	346.18	461.57	692.35	28.84793
24	63.43	63.37	3.83	1.92	1.92	3.83	0.11	0.26	26.85	1.92	380.37	499.73	738.43	358.06	477.41	716.12	29.83825

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.45)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.03) for Hip Rafter Plumb Cut Angle (SS Angle 33.62)
 Tongue (12.03) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.38)

Tongue (0.90) Blade (14.45) for Hip Side Cut Angle (SS Angle 3.57) (Saw Angle 85.71)
 Tongue (0.60) Blade (14.45) for Hip Backing Angle (SS Angle 2.38)

Tongue (0.90) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 3.57) (Saw Angle 85.71)

Tongue (0.60) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 2.38) (Saw Angle 2.38)
 Tongue (0.90) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 3.57)

Tongue (0.60) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 2.38) (Saw Angle 2.38)
 Tongue (0.90) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 3.57)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.03) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.62)
 Tongue (0.90) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 4.29) (Saw Angle 4.29)

Tongue (0.60) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 2.38)
 Tongue (0.90) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 3.57) (Saw Angle 3.56)

Tongue (0.60) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 2.38)
 Tongue (0.90) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 3.57) (Saw Angle 3.56)

Tongue (0.03) Blade (0.90) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.15)
 Tongue (0.90) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 3.57) (Saw Bevel Angle 3.56)

48 Sided Polygon Rafter Table (48 - gon)

central angle = 7.5°
 working angle = 3.75°
 plan angle = 86.25°
 miter angle = 0.79 & 12 (3.75°)
 hip run per foot = 12.03
 apothem multiplier = 1.00215
 side wall multiplier = 0.13109

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	3.75	3.75	0.00	0.00	0.00	12.03	3.75	194.50	255.53	377.59	183.08	244.11	366.17	15.25705
1	4.76	4.75	0.31	3.74	3.74	0.31	0.00	0.01	12.07	3.74	195.18	256.42	378.90	183.72	244.96	367.44	15.30994
2	9.46	9.44	0.62	3.70	3.70	0.62	0.01	0.02	12.19	3.70	197.19	259.06	382.80	185.61	247.48	371.22	15.46750
3	14.04	14.01	0.91	3.64	3.64	0.91	0.01	0.03	12.39	3.64	200.49	263.40	389.21	188.72	251.63	377.44	15.72661
4	18.43	18.40	1.19	3.56	3.56	1.19	0.02	0.04	12.67	3.56	205.02	269.35	398.01	192.99	257.32	385.98	16.08234
5	22.62	22.58	1.44	3.46	3.46	1.44	0.02	0.05	13.02	3.46	210.71	276.83	409.05	198.34	264.46	396.68	16.52847
6	26.57	26.52	1.68	3.35	3.36	1.68	0.02	0.06	13.44	3.36	217.46	285.69	422.16	204.69	272.93	409.39	17.05790
7	30.26	30.20	1.89	3.24	3.24	1.89	0.03	0.07	13.91	3.24	225.18	295.83	437.13	211.96	282.61	423.92	17.66314
8	33.69	33.63	2.08	3.12	3.12	2.08	0.03	0.08	14.44	3.12	233.76	307.11	453.80	220.04	293.39	440.08	18.33669
9	36.87	36.81	2.25	3.00	3.00	2.25	0.04	0.09	15.02	3.00	243.13	319.41	471.98	228.86	305.14	457.71	19.07131
10	39.81	39.75	2.40	2.88	2.89	2.40	0.04	0.10	15.64	2.88	253.19	332.63	491.51	238.32	317.76	476.65	19.86023
11	42.51	42.45	2.54	2.76	2.77	2.53	0.04	0.10	16.30	2.77	263.86	346.65	512.22	248.37	331.16	496.73	20.69723
12	45.00	44.94	2.65	2.65	2.66	2.65	0.05	0.11	16.99	2.65	275.07	361.38	533.99	258.92	345.23	517.84	21.57673
13	47.29	47.23	2.76	2.54	2.55	2.75	0.05	0.12	17.71	2.55	286.76	376.73	556.68	269.92	359.90	539.85	22.49373
14	49.40	49.34	2.85	2.44	2.45	2.85	0.06	0.13	18.46	2.44	298.87	392.65	580.20	281.33	375.10	562.65	23.44384
15	51.34	51.28	2.93	2.34	2.35	2.93	0.06	0.14	19.23	2.34	311.36	409.05	604.43	293.08	390.77	586.16	24.42320
16	53.13	53.07	3.00	2.25	2.26	3.00	0.07	0.15	20.02	2.25	324.17	425.89	629.31	305.14	406.85	610.28	25.42842
17	54.78	54.72	3.07	2.16	2.17	3.06	0.07	0.16	20.82	2.16	337.28	443.10	654.76	317.48	423.30	634.96	26.45656
18	56.31	56.25	3.12	2.08	2.09	3.12	0.07	0.17	21.65	2.08	350.65	460.67	680.71	330.06	440.08	660.12	27.50504
19	57.72	57.67	3.17	2.00	2.01	3.17	0.08	0.18	22.49	2.00	364.24	478.53	707.10	342.86	457.15	685.72	28.57163
20	59.04	58.98	3.22	1.93	1.93	3.21	0.08	0.19	23.34	1.93	378.05	496.66	733.90	355.85	474.47	711.71	29.65438
21	60.26	60.20	3.26	1.86	1.87	3.26	0.09	0.20	24.20	1.86	392.03	515.04	761.05	369.02	492.03	738.04	30.75157
22	61.39	61.34	3.29	1.79	1.80	3.29	0.09	0.21	25.07	1.80	406.19	533.63	788.53	382.34	509.79	764.68	31.86172
23	62.45	62.40	3.33	1.73	1.74	3.32	0.09	0.22	25.95	1.74	420.49	552.42	816.29	395.80	527.74	791.60	32.98351
24	63.43	63.39	3.36	1.68	1.68	3.35	0.10	0.23	26.84	1.68	434.92	571.38	844.31	409.39	545.85	818.78	34.11580

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.44)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.03) for Hip Rafter Plumb Cut Angle (SS Angle 33.63)
 Tongue (12.03) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.37)

Tongue (0.79) Blade (14.44) for Hip Side Cut Angle (SS Angle 3.12) (Saw Angle 86.25)
 Tongue (0.52) Blade (14.44) for Hip Backing Angle (SS Angle 2.08)

Tongue (0.79) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 3.12) (Saw Angle 86.25)

Tongue (0.52) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 2.08) (Saw Angle 2.08)
 Tongue (0.79) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 3.12)

Tongue (0.52) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 2.08) (Saw Angle 2.08)
 Tongue (0.79) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 3.12)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.03) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.63)
 Tongue (0.79) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 3.75) (Saw Angle 3.75)

Tongue (0.52) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 2.08)
 Tongue (0.79) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 3.12) (Saw Angle 3.12)

Tongue (0.52) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 2.08)
 Tongue (0.79) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 3.12) (Saw Angle 3.12)

Tongue (0.02) Blade (0.79) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.11)
 Tongue (0.79) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 3.12) (Saw Bevel Angle 3.12)

64 Sided Polygon Rafter Table (64 - gon)

central angle = 5.625°
 working angle = 2.8125°
 plan angle = 87.1875°
 miter angle = 0.59 & 12 (2.81°)
 hip run per foot = 12.01
 apothem multiplier = 1.00121
 side wall multiplier = 0.09825

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	2.8125	2.81	0.00	0.00	0.00	12.01	2.8125	259.51	340.94	503.78	244.27	325.69	488.53	20.35547
1	4.76	4.76	0.23	2.80	2.80	0.23	0.00	0.01	12.06	2.80	260.41	342.12	505.53	245.11	326.82	490.22	20.42602
2	9.46	9.45	0.46	2.77	2.77	0.46	0.01	0.01	12.18	2.77	263.09	345.64	510.73	247.63	330.18	495.27	20.63625
3	14.04	14.02	0.68	2.73	2.73	0.68	0.01	0.02	12.38	2.73	267.50	351.43	519.28	251.78	335.71	503.57	20.98194
4	18.43	18.41	0.89	2.67	2.67	0.89	0.01	0.03	12.66	2.67	273.55	359.38	531.03	257.48	343.30	514.96	21.45655
5	22.62	22.60	1.08	2.60	2.60	1.08	0.02	0.04	13.01	2.60	281.14	369.35	545.76	264.62	352.83	529.24	22.05176
6	26.57	26.54	1.26	2.52	2.52	1.26	0.02	0.04	13.43	2.52	290.15	381.18	563.24	273.10	364.13	546.19	22.75810
7	30.26	30.23	1.42	2.43	2.43	1.42	0.02	0.05	13.90	2.43	300.44	394.70	583.23	282.79	377.05	565.57	23.56560
8	33.69	33.66	1.56	2.34	2.34	1.56	0.02	0.06	14.43	2.34	311.90	409.75	605.47	293.57	391.43	587.14	24.46423
9	36.87	36.84	1.69	2.25	2.25	1.69	0.03	0.06	15.01	2.25	324.39	426.17	629.72	305.33	407.11	610.66	25.44433
10	39.81	39.77	1.80	2.16	2.16	1.80	0.03	0.07	15.63	2.16	337.81	443.80	655.77	317.96	423.95	635.93	26.49688
11	42.51	42.48	1.90	2.07	2.08	1.90	0.03	0.08	16.29	2.07	352.05	462.50	683.41	331.36	441.82	662.73	27.61358
12	45.00	44.97	1.99	1.99	1.99	1.99	0.04	0.09	16.98	1.99	367.01	482.16	712.45	345.44	460.59	690.89	28.78698
13	47.29	47.26	2.07	1.91	1.91	2.07	0.04	0.09	17.70	1.91	382.61	502.65	742.73	360.12	480.17	720.25	30.01042
14	49.40	49.36	2.14	1.83	1.83	2.14	0.04	0.10	18.45	1.83	398.77	523.88	774.10	375.34	500.45	750.67	31.27802
15	51.34	51.31	2.20	1.76	1.76	2.20	0.05	0.11	19.22	1.76	415.42	545.76	806.44	391.02	521.35	782.03	32.58465
16	53.13	53.10	2.25	1.69	1.69	2.25	0.05	0.11	20.01	1.69	432.52	568.23	839.63	407.11	542.81	814.22	33.92578
17	54.78	54.75	2.30	1.62	1.62	2.30	0.05	0.12	20.82	1.62	450.01	591.20	873.58	423.57	564.76	847.14	35.29749
18	56.31	56.28	2.34	1.56	1.56	2.34	0.06	0.13	21.64	1.56	467.85	614.63	908.20	440.36	587.14	880.71	36.69634
19	57.72	57.69	2.38	1.50	1.50	2.38	0.06	0.14	22.48	1.50	485.99	638.46	943.42	457.43	609.91	914.86	38.11935
20	59.04	59.01	2.41	1.45	1.45	2.41	0.06	0.14	23.33	1.45	504.40	662.66	979.17	474.77	633.02	949.53	39.56392
21	60.26	60.23	2.44	1.39	1.40	2.44	0.06	0.15	24.19	1.40	523.07	687.18	1015.40	492.33	656.44	984.67	41.02776
22	61.39	61.36	2.47	1.35	1.35	2.47	0.07	0.16	25.07	1.35	541.95	711.99	1052.06	510.11	680.14	1020.21	42.50888
23	62.45	62.42	2.49	1.30	1.30	2.49	0.07	0.16	25.95	1.30	561.03	737.05	1089.10	528.07	704.09	1056.13	44.00554
24	63.43	63.41	2.52	1.26	1.26	2.52	0.07	0.17	26.84	1.26	580.29	762.36	1126.49	546.19	728.26	1092.39	45.51621

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.43)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.01) for Hip Rafter Plumb Cut Angle (SS Angle 33.66)
 Tongue (12.01) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.34)

Tongue (0.59) Blade (14.43) for Hip Side Cut Angle (SS Angle 2.34) (Saw Angle 87.19)
 Tongue (0.39) Blade (14.43) for Hip Backing Angle (SS Angle 1.56)

Tongue (0.59) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 2.34) (Saw Angle 87.19)

Tongue (0.39) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 1.56) (Saw Angle 1.56)
 Tongue (0.59) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 2.34)

Tongue (0.39) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 1.56) (Saw Angle 1.56)
 Tongue (0.59) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 2.34)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.01) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.66)
 Tongue (0.59) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 2.81) (Saw Angle 2.81)

Tongue (0.39) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 1.56)
 Tongue (0.59) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 2.34) (Saw Angle 2.34)

Tongue (0.39) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 1.56)
 Tongue (0.59) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 2.34) (Saw Angle 2.34)

Tongue (0.01) Blade (0.59) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.06)
 Tongue (0.59) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 2.34) (Saw Bevel Angle 2.34)

96 Sided Polygon Rafter Table (96 - gon)

central angle = 3.75°
 working angle = 1.875°
 plan angle = 88.125°
 miter angle = 0.39 & 12 (1.88°)
 hip run per foot = 12.01
 apothem multiplier = 1.00054
 side wall multiplier = 0.06547

Pitch	Roof Angles		Frieze Block Angles		Hip Rafters					Jack Rafters							
	Roof Pitch Angle	Hip Pitch Angle	Angle	Saw Bevel	Side Cut Angle	Backing Angle	Hip Drop 2x	Hip Drop 4x	Length Per-FT	Side Cut Angle	First 12" O.C.	First 16" O.C.	First 24" O.C.	Spaced 12" O.C.	Spaced 16" O.C.	Spaced 24" O.C.	Multiplier
0	0.00	0.00	0	1.875	1.88	0.00	0.00	0.00	12.01	1.875	389.46	511.65	756.02	366.56	488.75	733.12	30.54684
1	4.76	4.76	0.16	1.87	1.87	0.16	0.00	0.00	12.05	1.87	390.81	513.42	758.64	367.83	490.44	735.67	30.65272
2	9.46	9.46	0.31	1.85	1.85	0.31	0.00	0.01	12.17	1.85	394.83	518.70	766.45	371.62	495.49	743.24	30.96820
3	14.04	14.03	0.45	1.82	1.82	0.45	0.01	0.01	12.38	1.82	401.45	527.39	779.29	377.84	503.79	755.69	31.48696
4	18.43	18.43	0.59	1.78	1.78	0.59	0.01	0.02	12.66	1.78	410.53	539.32	796.92	386.39	515.19	772.78	32.19920
5	22.62	22.61	0.72	1.73	1.73	0.72	0.01	0.02	13.01	1.73	421.91	554.28	819.02	397.11	529.48	794.22	33.09241
6	26.57	26.55	0.84	1.68	1.68	0.84	0.01	0.03	13.42	1.68	435.43	572.04	845.26	409.83	546.44	819.66	34.15241
7	30.26	30.24	0.95	1.62	1.62	0.94	0.01	0.03	13.90	1.62	450.88	592.34	875.25	424.37	565.83	848.74	35.36419
8	33.69	33.68	1.04	1.56	1.56	1.04	0.02	0.04	14.43	1.56	468.07	614.92	908.63	440.55	587.40	881.11	36.71273
9	36.87	36.86	1.13	1.50	1.50	1.12	0.02	0.04	15.01	1.50	486.82	639.56	945.03	458.20	610.94	916.41	38.18355
10	39.81	39.79	1.20	1.44	1.44	1.20	0.02	0.05	15.63	1.44	506.96	666.02	984.12	477.16	636.21	954.31	39.76307
11	42.51	42.50	1.27	1.38	1.38	1.27	0.02	0.05	16.28	1.38	528.33	694.08	1025.60	497.27	663.02	994.53	41.43888
12	45.00	44.98	1.33	1.33	1.33	1.33	0.02	0.06	16.98	1.33	550.78	723.58	1069.18	518.40	691.20	1036.79	43.19976
13	47.29	47.28	1.38	1.27	1.27	1.38	0.03	0.06	17.70	1.27	574.19	754.33	1114.62	540.43	720.57	1080.86	45.03573
14	49.40	49.38	1.42	1.22	1.22	1.42	0.03	0.07	18.44	1.22	598.44	786.19	1161.70	563.26	751.01	1126.51	46.93799
15	51.34	51.33	1.46	1.17	1.17	1.46	0.03	0.07	19.21	1.17	623.44	819.04	1210.23	586.79	782.38	1173.57	48.89880
16	53.13	53.12	1.50	1.12	1.13	1.50	0.03	0.08	20.00	1.13	649.10	852.75	1260.04	610.94	814.58	1221.87	50.91140
17	54.78	54.77	1.53	1.08	1.08	1.53	0.03	0.08	20.81	1.08	675.34	887.22	1310.98	635.64	847.52	1271.28	52.96988
18	56.31	56.30	1.56	1.04	1.04	1.56	0.04	0.09	21.64	1.04	702.11	922.39	1362.94	660.83	881.11	1321.66	55.06910
19	57.72	57.71	1.59	1.00	1.00	1.59	0.04	0.09	22.48	1.00	729.34	958.15	1415.79	686.45	915.27	1372.91	57.20457
20	59.04	59.02	1.61	0.96	0.97	1.61	0.04	0.10	23.33	0.96	756.97	994.46	1469.44	712.47	949.96	1424.94	59.37238
21	60.26	60.24	1.63	0.93	0.93	1.63	0.04	0.10	24.19	0.93	784.98	1031.26	1523.81	738.83	985.11	1477.66	61.56912
22	61.39	61.38	1.65	0.90	0.90	1.65	0.04	0.10	25.06	0.90	813.32	1068.49	1578.82	765.50	1020.67	1531.00	63.79180
23	62.45	62.43	1.66	0.87	0.87	1.66	0.05	0.11	25.95	0.87	841.96	1106.11	1634.41	792.45	1056.60	1584.91	66.03780
24	63.43	63.42	1.68	0.84	0.84	1.68	0.05	0.11	26.84	0.84	870.86	1144.08	1690.52	819.66	1092.88	1639.32	68.30481

Framing Square usage Example: 8:12 Pitch
 (Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 14.43)
 SS Angle = Speed Square Angle
 Saw Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)
 Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.01) for Hip Rafter Plumb Cut Angle (SS Angle 33.68)
 Tongue (12.01) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 56.32)

Tongue (0.39) Blade (14.43) for Hip Side Cut Angle (SS Angle 1.56) (Saw Angle 88.13)
 Tongue (0.26) Blade (14.43) for Hip Backing Angle (SS Angle 1.04)

Tongue (0.39) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 1.56) (Saw Angle 88.13)

Tongue (0.26) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 1.04) (Saw Angle 1.04)
 Tongue (0.39) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 1.56)

Tongue (0.26) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 1.04) (Saw Angle 1.04)
 Tongue (0.39) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 1.56)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)
 Tongue (8.00) Blade (12.01) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 33.68)
 Tongue (0.39) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 1.87) (Saw Angle 1.87)

Tongue (0.26) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 1.04)
 Tongue (0.39) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 1.56) (Saw Angle 1.56)

Tongue (0.26) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 1.04)
 Tongue (0.39) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 1.56) (Saw Angle 1.56)

Tongue (0.01) Blade (0.39) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 0.03)
 Tongue (0.39) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 1.56) (Saw Bevel Angle 1.56)

Octagon Framing Square Usage

Octagon Framing Square usage: 3:12 Pitch

(Rafter Length Per Ft = 12.37) (Hip Rafter Length Per Ft = 13.33)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (3.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 14.04)

Tongue (12.00) Blade (3.00) for Rafter Level Cut Angle (SS Angle 75.96)

Tongue (3.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 13.01)

Tongue (12.99) Blade (3.00) for Hip Rafter Level Cut Angle (SS Angle 76.99)

Tongue (5.38) Blade (13.33) for Hip Side Cut Angle (SS Angle 21.98) (Saw Bevel Angle 67.50)

Tongue (1.24) Blade (13.33) for Hip Backing Angle (SS Angle 5.33)

Tongue (4.97) Blade (12.37) for Jack Rafter Side Cut Angle (SS Angle 21.89) (Saw Bevel Angle 67.50)

Tongue (1.24) Blade (12.37) for Purlin Rafter Plumb Cut Angle (SS Angle 5.74) (Saw Bevel Angle 5.33)

Tongue (4.97) Blade (12.37) for Purlin Rafter Cross Cut Angle (SS Angle 21.89)

Tongue (1.24) Blade (12.37) for Roof Sheathing Plumb Cut Angle (SS Angle 5.74) (Saw Bevel Angle 5.33)

Tongue (4.97) Blade (12.37) for Roof Sheathing Cross Cut Angle (SS Angle 21.89)

Tongue (3.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 14.04)

Tongue (3.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 13.01)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (1.24) Blade (12.37) for Frieze Block Plumb Cut Angle (SS Angle 5.74)

Tongue (4.97) Blade (12.37) for Frieze Block Cross Cut Angle (SS Angle 21.89) (Saw Bevel Angle 21.79)

Tongue (1.24) Blade (12.37) for Square Cut Fascia Plumb Cut Angle (SS Angle 5.74)

Tongue (4.97) Blade (12.37) for Square Cut Fascia Cross Cut Angle (SS Angle 21.89) (Saw Bevel Angle 21.79)

Tongue (0.45) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 2.14)

Tongue (4.97) Blade (12.37) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 21.89) (Saw Bevel Angle 21.79)

Octagon Framing Square usage: 4:12 Pitch

(Rafter Length Per Ft = 12.65) (Hip Rafter Length Per Ft = 13.59)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (4.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 18.43)

Tongue (12.00) Blade (4.00) for Rafter Level Cut Angle (SS Angle 71.57)

Tongue (4.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 17.12)

Tongue (12.99) Blade (4.00) for Hip Rafter Level Cut Angle (SS Angle 72.88)

Tongue (5.38) Blade (13.59) for Hip Side Cut Angle (SS Angle 21.60) (Saw Bevel Angle 67.50)

Tongue (1.66) Blade (13.59) for Hip Backing Angle (SS Angle 6.95)

Tongue (4.97) Blade (12.65) for Jack Rafter Side Cut Angle (SS Angle 21.45) (Saw Bevel Angle 67.50)

Tongue (1.66) Blade (12.65) for Purlin Rafter Plumb Cut Angle (SS Angle 7.46) (Saw Bevel Angle 6.95)

Tongue (4.97) Blade (12.65) for Purlin Rafter Cross Cut Angle (SS Angle 21.45)

Tongue (1.66) Blade (12.65) for Roof Sheathing Plumb Cut Angle (SS Angle 7.46) (Saw Bevel Angle 6.95)

Tongue (4.97) Blade (12.65) for Roof Sheathing Cross Cut Angle (SS Angle 21.45)

Tongue (4.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 18.43)

Tongue (4.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 17.12)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (1.66) Blade (12.65) for Frieze Block Plumb Cut Angle (SS Angle 7.46)

Tongue (4.97) Blade (12.65) for Frieze Block Cross Cut Angle (SS Angle 21.45) (Saw Bevel Angle 21.29)

Tongue (1.66) Blade (12.65) for Square Cut Fascia Plumb Cut Angle (SS Angle 7.46)

Tongue (4.97) Blade (12.65) for Square Cut Fascia Cross Cut Angle (SS Angle 21.45) (Saw Bevel Angle 21.29)

Tongue (0.57) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 2.72)

Tongue (4.97) Blade (12.65) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 21.45) (Saw Bevel Angle 21.29)

Octagon Framing Square Usage

Octagon Framing Square usage: 5:12 Pitch

(Rafter Length Per Ft = 13.00) (Hip Rafter Length Per Ft = 13.92)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (5.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 22.62)

Tongue (12.00) Blade (5.00) for Rafter Level Cut Angle (SS Angle 67.38)

Tongue (5.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 21.05)

Tongue (12.99) Blade (5.00) for Hip Rafter Level Cut Angle (SS Angle 68.95)

Tongue (5.38) Blade (13.92) for Hip Side Cut Angle (SS Angle 21.13) (Saw Bevel Angle 67.50)

Tongue (2.07) Blade (13.92) for Hip Backing Angle (SS Angle 8.46)

Tongue (4.97) Blade (13.00) for Jack Rafter Side Cut Angle (SS Angle 20.92) (Saw Bevel Angle 67.50)

Tongue (2.07) Blade (13.00) for Purlin Rafter Plumb Cut Angle (SS Angle 9.05) (Saw Bevel Angle 8.46)

Tongue (4.97) Blade (13.00) for Purlin Rafter Cross Cut Angle (SS Angle 20.92)

Tongue (2.07) Blade (13.00) for Roof Sheathing Plumb Cut Angle (SS Angle 9.05) (Saw Bevel Angle 8.46)

Tongue (4.97) Blade (13.00) for Roof Sheathing Cross Cut Angle (SS Angle 20.92)

Tongue (5.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 22.62)

Tongue (5.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 21.05)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (2.07) Blade (13.00) for Frieze Block Plumb Cut Angle (SS Angle 9.05)

Tongue (4.97) Blade (13.00) for Frieze Block Cross Cut Angle (SS Angle 20.92) (Saw Bevel Angle 20.69)

Tongue (2.07) Blade (13.00) for Square Cut Fascia Plumb Cut Angle (SS Angle 9.05)

Tongue (4.97) Blade (13.00) for Square Cut Fascia Cross Cut Angle (SS Angle 20.92) (Saw Bevel Angle 20.69)

Tongue (0.68) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 3.22)

Tongue (4.97) Blade (13.00) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 20.92) (Saw Bevel Angle 20.69)

Octagon Framing Square usage: 6:12 Pitch

(Rafter Length Per Ft = 13.42) (Hip Rafter Length Per Ft = 14.31)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (6.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 26.57)

Tongue (12.00) Blade (6.00) for Rafter Level Cut Angle (SS Angle 63.43)

Tongue (6.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 24.79)

Tongue (12.99) Blade (6.00) for Hip Rafter Level Cut Angle (SS Angle 65.21)

Tongue (5.38) Blade (14.31) for Hip Side Cut Angle (SS Angle 20.61) (Saw Bevel Angle 67.50)

Tongue (2.49) Blade (14.31) for Hip Backing Angle (SS Angle 9.85)

Tongue (4.97) Blade (13.42) for Jack Rafter Side Cut Angle (SS Angle 20.33) (Saw Bevel Angle 67.50)

Tongue (2.49) Blade (13.42) for Purlin Rafter Plumb Cut Angle (SS Angle 10.49) (Saw Bevel Angle 9.85)

Tongue (4.97) Blade (13.42) for Purlin Rafter Cross Cut Angle (SS Angle 20.33)

Tongue (2.49) Blade (13.42) for Roof Sheathing Plumb Cut Angle (SS Angle 10.49) (Saw Bevel Angle 9.85)

Tongue (4.97) Blade (13.42) for Roof Sheathing Cross Cut Angle (SS Angle 20.33)

Tongue (6.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 26.57)

Tongue (6.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 24.79)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (2.49) Blade (13.42) for Frieze Block Plumb Cut Angle (SS Angle 10.49)

Tongue (4.97) Blade (13.42) for Frieze Block Cross Cut Angle (SS Angle 20.33) (Saw Bevel Angle 20.02)

Tongue (2.49) Blade (13.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 10.49)

Tongue (4.97) Blade (13.42) for Square Cut Fascia Cross Cut Angle (SS Angle 20.33) (Saw Bevel Angle 20.02)

Tongue (0.76) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 3.63)

Tongue (4.97) Blade (13.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 20.33) (Saw Bevel Angle 20.02)

Octagon Framing Square Usage

Octagon Framing Square usage: 7:12 Pitch

(Rafter Length Per Ft = 13.89) (Hip Rafter Length Per Ft = 14.75)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (7.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 30.26)

Tongue (12.00) Blade (7.00) for Rafter Level Cut Angle (SS Angle 59.74)

Tongue (7.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 28.32)

Tongue (12.99) Blade (7.00) for Hip Rafter Level Cut Angle (SS Angle 61.68)

Tongue (5.38) Blade (14.75) for Hip Side Cut Angle (SS Angle 20.03) (Saw Bevel Angle 67.50)

Tongue (2.90) Blade (14.75) for Hip Backing Angle (SS Angle 11.12)

Tongue (4.97) Blade (13.89) for Jack Rafter Side Cut Angle (SS Angle 19.69) (Saw Bevel Angle 67.50)

Tongue (2.90) Blade (13.89) for Purlin Rafter Plumb Cut Angle (SS Angle 11.79) (Saw Bevel Angle 11.12)

Tongue (4.97) Blade (13.89) for Purlin Rafter Cross Cut Angle (SS Angle 19.69)

Tongue (2.90) Blade (13.89) for Roof Sheathing Plumb Cut Angle (SS Angle 11.79) (Saw Bevel Angle 11.12)

Tongue (4.97) Blade (13.89) for Roof Sheathing Cross Cut Angle (SS Angle 19.69)

Tongue (7.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 30.26)

Tongue (7.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 28.32)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (2.90) Blade (13.89) for Frieze Block Plumb Cut Angle (SS Angle 11.79)

Tongue (4.97) Blade (13.89) for Frieze Block Cross Cut Angle (SS Angle 19.69) (Saw Bevel Angle 19.30)

Tongue (2.90) Blade (13.89) for Square Cut Fascia Plumb Cut Angle (SS Angle 11.79)

Tongue (4.97) Blade (13.89) for Square Cut Fascia Cross Cut Angle (SS Angle 19.69) (Saw Bevel Angle 19.30)

Tongue (0.83) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 3.95)

Tongue (4.97) Blade (13.89) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 19.69) (Saw Bevel Angle 19.30)

Octagon Framing Square usage: 8:12 Pitch

(Rafter Length Per Ft = 14.42) (Hip Rafter Length Per Ft = 15.25)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (8.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 33.69)

Tongue (12.00) Blade (8.00) for Rafter Level Cut Angle (SS Angle 56.31)

Tongue (8.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 31.63)

Tongue (12.99) Blade (8.00) for Hip Rafter Level Cut Angle (SS Angle 58.37)

Tongue (5.38) Blade (15.25) for Hip Side Cut Angle (SS Angle 19.43) (Saw Bevel Angle 67.50)

Tongue (3.31) Blade (15.25) for Hip Backing Angle (SS Angle 12.26)

Tongue (4.97) Blade (14.42) for Jack Rafter Side Cut Angle (SS Angle 19.02) (Saw Bevel Angle 67.50)

Tongue (3.31) Blade (14.42) for Purlin Rafter Plumb Cut Angle (SS Angle 12.94) (Saw Bevel Angle 12.26)

Tongue (4.97) Blade (14.42) for Purlin Rafter Cross Cut Angle (SS Angle 19.02)

Tongue (3.31) Blade (14.42) for Roof Sheathing Plumb Cut Angle (SS Angle 12.94) (Saw Bevel Angle 12.26)

Tongue (4.97) Blade (14.42) for Roof Sheathing Cross Cut Angle (SS Angle 19.02)

Tongue (8.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 33.69)

Tongue (8.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 31.63)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (3.31) Blade (14.42) for Frieze Block Plumb Cut Angle (SS Angle 12.94)

Tongue (4.97) Blade (14.42) for Frieze Block Cross Cut Angle (SS Angle 19.02) (Saw Bevel Angle 18.57)

Tongue (3.31) Blade (14.42) for Square Cut Fascia Plumb Cut Angle (SS Angle 12.94)

Tongue (4.97) Blade (14.42) for Square Cut Fascia Cross Cut Angle (SS Angle 19.02) (Saw Bevel Angle 18.57)

Tongue (0.88) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 4.18)

Tongue (4.97) Blade (14.42) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 19.02) (Saw Bevel Angle 18.57)

Octagon Framing Square Usage

Octagon Framing Square usage: 9:12 Pitch

(Rafter Length Per Ft = 15.00) (Hip Rafter Length Per Ft = 15.80)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (9.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 36.87)

Tongue (12.00) Blade (9.00) for Rafter Level Cut Angle (SS Angle 53.13)

Tongue (9.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 34.72)

Tongue (12.99) Blade (9.00) for Hip Rafter Level Cut Angle (SS Angle 55.28)

Tongue (5.38) Blade (15.80) for Hip Side Cut Angle (SS Angle 18.80) (Saw Bevel Angle 67.50)

Tongue (3.73) Blade (15.80) for Hip Backing Angle (SS Angle 13.27)

Tongue (4.97) Blade (15.00) for Jack Rafter Side Cut Angle (SS Angle 18.33) (Saw Bevel Angle 67.50)

Tongue (3.73) Blade (15.00) for Purlin Rafter Plumb Cut Angle (SS Angle 13.96) (Saw Bevel Angle 13.27)

Tongue (4.97) Blade (15.00) for Purlin Rafter Cross Cut Angle (SS Angle 18.33)

Tongue (3.73) Blade (15.00) for Roof Sheathing Plumb Cut Angle (SS Angle 13.96) (Saw Bevel Angle 13.27)

Tongue (4.97) Blade (15.00) for Roof Sheathing Cross Cut Angle (SS Angle 18.33)

Tongue (9.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 36.87)

Tongue (9.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 34.72)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (3.73) Blade (15.00) for Frieze Block Plumb Cut Angle (SS Angle 13.96)

Tongue (4.97) Blade (15.00) for Frieze Block Cross Cut Angle (SS Angle 18.33) (Saw Bevel Angle 17.83)

Tongue (3.73) Blade (15.00) for Square Cut Fascia Plumb Cut Angle (SS Angle 13.96)

Tongue (4.97) Blade (15.00) for Square Cut Fascia Cross Cut Angle (SS Angle 18.33) (Saw Bevel Angle 17.83)

Tongue (0.91) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 4.35)

Tongue (4.97) Blade (15.00) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 18.33) (Saw Bevel Angle 17.83)

Octagon Framing Square usage: 10:12 Pitch

(Rafter Length Per Ft = 15.62) (Hip Rafter Length Per Ft = 16.39)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (10.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 39.81)

Tongue (12.00) Blade (10.00) for Rafter Level Cut Angle (SS Angle 50.19)

Tongue (10.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 37.59)

Tongue (12.99) Blade (10.00) for Hip Rafter Level Cut Angle (SS Angle 52.41)

Tongue (5.38) Blade (16.39) for Hip Side Cut Angle (SS Angle 18.17) (Saw Bevel Angle 67.50)

Tongue (4.14) Blade (16.39) for Hip Backing Angle (SS Angle 14.18)

Tongue (4.97) Blade (15.62) for Jack Rafter Side Cut Angle (SS Angle 17.65) (Saw Bevel Angle 67.50)

Tongue (4.14) Blade (15.62) for Purlin Rafter Plumb Cut Angle (SS Angle 14.85) (Saw Bevel Angle 14.18)

Tongue (4.97) Blade (15.62) for Purlin Rafter Cross Cut Angle (SS Angle 17.65)

Tongue (4.14) Blade (15.62) for Roof Sheathing Plumb Cut Angle (SS Angle 14.85) (Saw Bevel Angle 14.18)

Tongue (4.97) Blade (15.62) for Roof Sheathing Cross Cut Angle (SS Angle 17.65)

Tongue (10.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 39.81)

Tongue (10.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 37.59)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (4.14) Blade (15.62) for Frieze Block Plumb Cut Angle (SS Angle 14.85)

Tongue (4.97) Blade (15.62) for Frieze Block Cross Cut Angle (SS Angle 17.65) (Saw Bevel Angle 17.10)

Tongue (4.14) Blade (15.62) for Square Cut Fascia Plumb Cut Angle (SS Angle 14.85)

Tongue (4.97) Blade (15.62) for Square Cut Fascia Cross Cut Angle (SS Angle 17.65) (Saw Bevel Angle 17.10)

Tongue (0.94) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 4.46)

Tongue (4.97) Blade (15.62) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 17.65) (Saw Bevel Angle 17.10)

Octagon Framing Square Usage

Octagon Framing Square usage: 11:12 Pitch

(Rafter Length Per Ft = 16.28) (Hip Rafter Length Per Ft = 17.02)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (11.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 42.51)

Tongue (12.00) Blade (11.00) for Rafter Level Cut Angle (SS Angle 47.49)

Tongue (11.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 40.26)

Tongue (12.99) Blade (11.00) for Hip Rafter Level Cut Angle (SS Angle 49.74)

Tongue (5.38) Blade (17.02) for Hip Side Cut Angle (SS Angle 17.54) (Saw Bevel Angle 67.50)

Tongue (4.56) Blade (17.02) for Hip Backing Angle (SS Angle 14.99)

Tongue (4.97) Blade (16.28) for Jack Rafter Side Cut Angle (SS Angle 16.98) (Saw Bevel Angle 67.50)

Tongue (4.56) Blade (16.28) for Purlin Rafter Plumb Cut Angle (SS Angle 15.64) (Saw Bevel Angle 14.99)

Tongue (4.97) Blade (16.28) for Purlin Rafter Cross Cut Angle (SS Angle 16.98)

Tongue (4.56) Blade (16.28) for Roof Sheathing Plumb Cut Angle (SS Angle 15.64) (Saw Bevel Angle 14.99)

Tongue (4.97) Blade (16.28) for Roof Sheathing Cross Cut Angle (SS Angle 16.98)

Tongue (11.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 42.51)

Tongue (11.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 40.26)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (4.56) Blade (16.28) for Frieze Block Plumb Cut Angle (SS Angle 15.64)

Tongue (4.97) Blade (16.28) for Frieze Block Cross Cut Angle (SS Angle 16.98) (Saw Bevel Angle 16.39)

Tongue (4.56) Blade (16.28) for Square Cut Fascia Plumb Cut Angle (SS Angle 15.64)

Tongue (4.97) Blade (16.28) for Square Cut Fascia Cross Cut Angle (SS Angle 16.98) (Saw Bevel Angle 16.39)

Tongue (0.95) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 4.51)

Tongue (4.97) Blade (16.28) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 16.98) (Saw Bevel Angle 16.39)

Octagon Framing Square usage: 12:12 Pitch

(Rafter Length Per Ft = 16.97) (Hip Rafter Length Per Ft = 17.68)

SS Angle = Speed Square Angle

Saw Bevel Angle produces compound Speed Square Angle

Tongue (12.00) Blade (12.00) for Rafter Plumb Cut Angle (SS Angle 45.00)

Tongue (12.00) Blade (12.00) for Rafter Level Cut Angle (SS Angle 45.00)

Tongue (12.00) Blade (12.99) for Hip Rafter Plumb Cut Angle (SS Angle 42.73)

Tongue (12.99) Blade (12.00) for Hip Rafter Level Cut Angle (SS Angle 47.27)

Tongue (5.38) Blade (17.68) for Hip Side Cut Angle (SS Angle 16.92) (Saw Bevel Angle 67.50)

Tongue (4.97) Blade (17.68) for Hip Backing Angle (SS Angle 15.70)

Tongue (4.97) Blade (16.97) for Jack Rafter Side Cut Angle (SS Angle 16.32) (Saw Bevel Angle 67.50)

Tongue (4.97) Blade (16.97) for Purlin Rafter Plumb Cut Angle (SS Angle 16.32) (Saw Bevel Angle 15.70)

Tongue (4.97) Blade (16.97) for Purlin Rafter Cross Cut Angle (SS Angle 16.32)

Tongue (4.97) Blade (16.97) for Roof Sheathing Plumb Cut Angle (SS Angle 16.32) (Saw Bevel Angle 15.70)

Tongue (4.97) Blade (16.97) for Roof Sheathing Cross Cut Angle (SS Angle 16.32)

Tongue (12.00) Blade (12.00) for Miter Box Gable Mould Plumb Cut Angle (SS Angle 45.00)

Tongue (12.00) Blade (12.99) for Miter Box 2 Cord Polygon Gable Mould Hip Plumb Cut Angle (SS Angle 42.73)

Tongue (4.97) Blade (12.00) for Miter Box 2 Cord Polygon Gable Mould Hip Cross Cut Angle (SS Angle 22.50)

Tongue (4.97) Blade (16.97) for Frieze Block Plumb Cut Angle (SS Angle 16.32)

Tongue (4.97) Blade (16.97) for Frieze Block Cross Cut Angle (SS Angle 16.32) (Saw Bevel Angle 15.70)

Tongue (4.97) Blade (16.97) for Square Cut Fascia Plumb Cut Angle (SS Angle 16.32)

Tongue (4.97) Blade (16.97) for Square Cut Fascia Cross Cut Angle (SS Angle 16.32) (Saw Bevel Angle 15.70)

Tongue (0.95) Blade (4.97) for Hip Rafter Square Cut Fascia Plumb Cut Angle (SS Angle 4.53)

Tongue (4.97) Blade (16.97) for Hip Rafter Square Cut Fascia Cross Cut Angle (SS Angle 16.32) (Saw Bevel Angle 15.70)