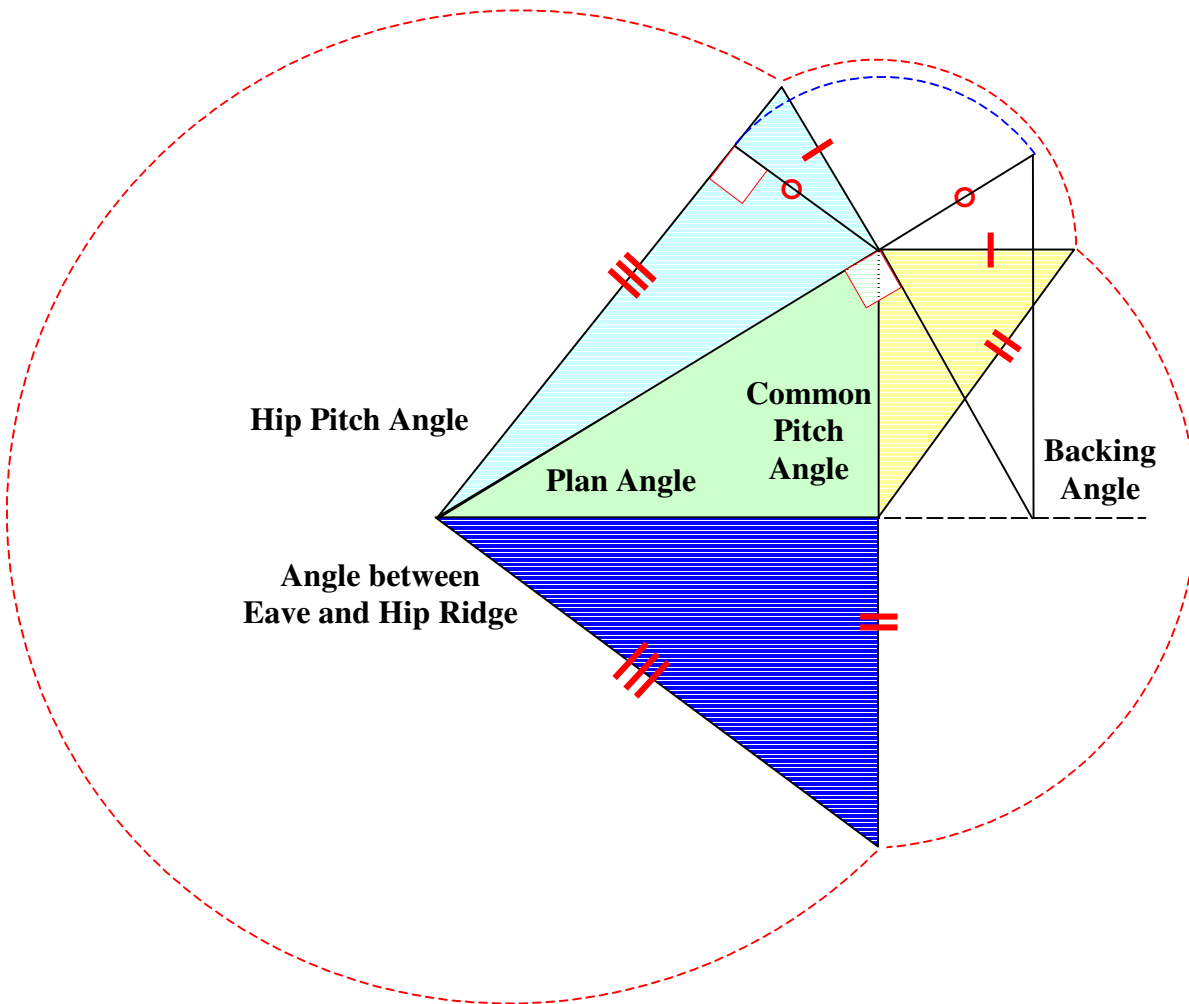


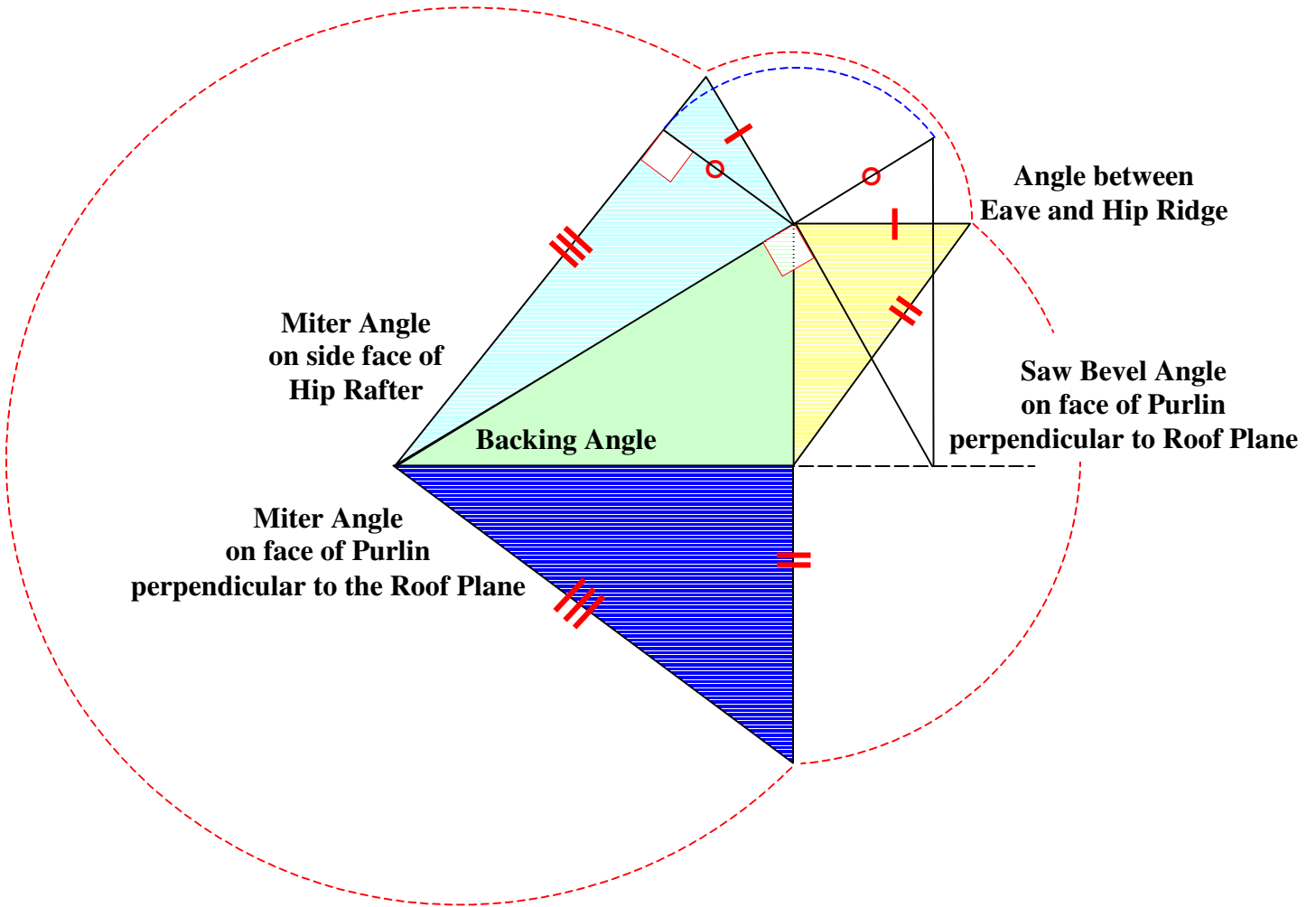
DEVELOPMENT of HIP ROOF ANGLES



DEVELOPMENT of HIP ROOF ANGLES

All triangles are right triangles. The **Plan** (green) and **Common Pitch** (yellow) triangles are drawn first. Next the **Hip Pitch** (pale blue) and **Angle between the Eave and Hip Ridge** (blue) triangles are developed. The triangle for the **Backing Angle** (no color) is developed last. Lines marked equal are connected using a compass.

DEVELOPMENT of PURLIN ANGLES



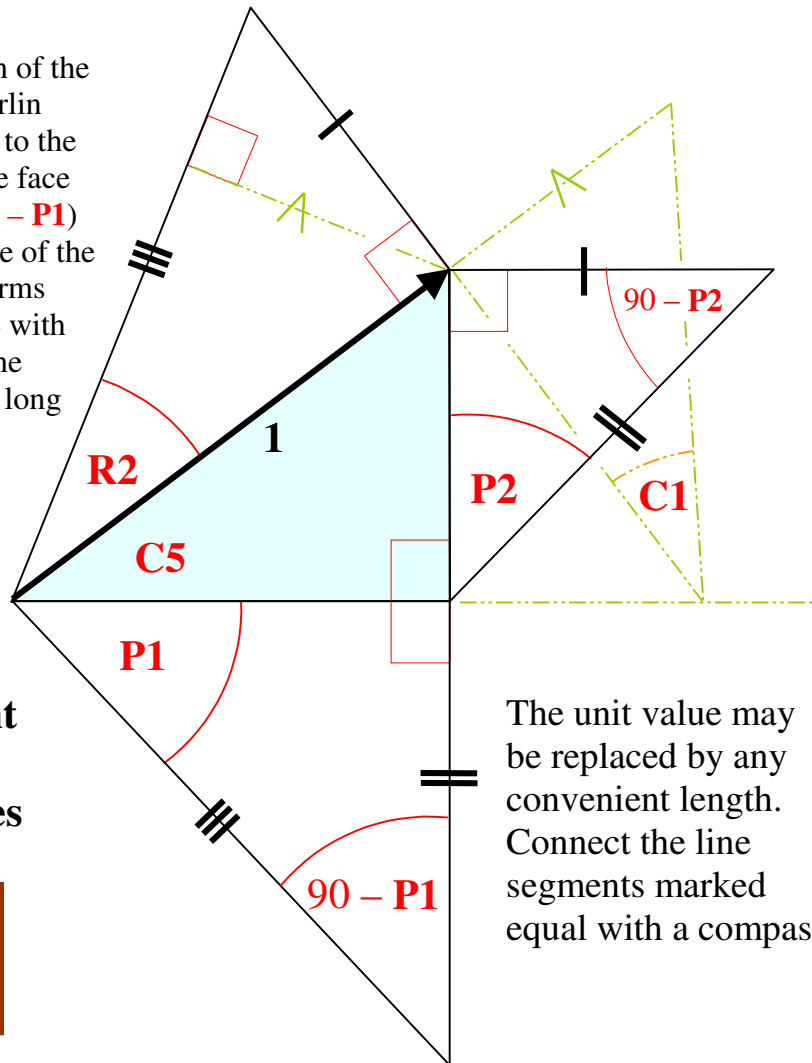
DEVELOPMENT of PURLIN ANGLES

All triangles are right triangles. The **Backing Angle** (green) and **Angle between Eave and Hip Ridge** (yellow) triangles are transferred from the previous development. Note the orientation of the angles relative to one another. Next the **Miter Angle on side face of Hip Rafter** (pale blue) and **Miter Angle on face of Purlin perpendicular to the Roof Plane** (blue) triangles are developed. The triangle for the **Saw Bevel Angle on face of Purlin perpendicular to the Roof Plane** (no color) is developed last. Lines marked equal are connected using a compass.

Development of C5, P1, C1, P2, and R2 Angles

The projection of the face of the Purlin perpendicular to the roof plane (the face of **Miter** = $90 - P1$) to the side face of the Hip/Valley forms angle $90 - R2$ with respect to a line parallel to the long axis of the Hip/Valley.

Development of Purlin Angles



The unit value may be replaced by any convenient length. Connect the line segments marked equal with a compass.

Supplementary Reading :

DEVELOPMENTS: Developments of angles **SS**, **DD**, **R1**, **P2** and **C5**

COGNATE KERNELS: Hierarchy Of Developed Kernels: Page 1

Purlin face set in the roof plane:

Miter (Angle on the stick) = $90 - P2$, **Saw Blade Angle** = **C5**

Begin with angles **C5** and **P2** arranged as per the sketch above

Develop angles **R2**, **P1** and **C1** as per the diagram

MISCELLANEOUS NOTES: Cutting Compound Angles: Page 4

Purlin face perpendicular to the roof plane:

Transfer the following angles: **Miter** = $90 - P1$, **Bevel** = $90 - P2$

Develop **Saw Blade Angle** = **C1** as per the diagram

Miter (Angle on the stick) = $90 - P1$, **Saw Blade Angle** = **C1**