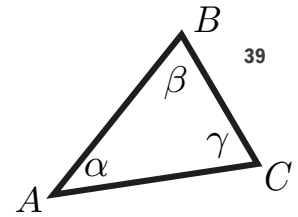


# Exemple de triangle en compensation conditionnelle

$$\begin{aligned} l_\alpha &= 035.471 \text{ gon} \\ l_\beta &= 107.383 \text{ gon} \\ l_\gamma &= 057.122 \text{ gon} \end{aligned}$$



## 6. Synthèse d'application pour triangle

- Condition

$$(l_\alpha - v_a) + (l_\beta - v_b) + (l_\gamma - v_g) - 200 = 0$$

- Ecart de fermeture

$$\underbrace{(l_\alpha + l_\beta + l_\gamma - 200)}_{\mathbf{w}} - (v_a + v_b + v_g) = 0 \longrightarrow \overbrace{\begin{bmatrix} 1 & 1 & 1 \end{bmatrix}}^{\mathbf{B}} \begin{bmatrix} v_a \\ v_b \\ v_c \end{bmatrix} = \mathbf{w} = -24 \text{ mgon}$$

- Résidus compensés:  $\hat{\mathbf{v}} = \mathbf{Q}_{\ell\ell} \mathbf{B}^T (\mathbf{B} \mathbf{Q}_{\ell\ell} \mathbf{B}^T)^{-1} \cdot \mathbf{w}$

$$\hat{\mathbf{v}} = \mathbf{I}_3 \cdot \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix} \left( \underbrace{\begin{bmatrix} 1 & 1 & 1 \end{bmatrix} \mathbf{I}_3 \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}}_3 \right)^{-1} \cdot \mathbf{w} = \begin{bmatrix} w/3 \\ w/3 \\ w/3 \end{bmatrix} = \begin{bmatrix} -8 \\ -8 \\ -8 \end{bmatrix} \text{ mgon}$$

- Observations compensées et le contrôle:  $\hat{\ell} = \ell - \hat{\mathbf{v}} \quad \sum \hat{\ell}_i - 200 = 0$