

## Prueba Solemne #2:

P2  $e_c = 9,216''$

Repetición:

calaje direct	Directa	Transito	Calaje Transito
V <sub>3</sub>	384,142	0,026	V <sub>5</sub>
V <sub>5</sub>	104,342	227,530	V <sub>3</sub>
Giros Completos	400	1600	
Angulo Total	517,21	1827,5	
Angulo Prolongado	$\frac{517,21}{n}$	$\frac{1827,5}{n}$	
$\delta$	86,2	304,583	
$\delta$	2,033	7,18363	
Angulo final	88,233	311,767	

$$e_c = 400 - \left( \frac{517,21}{n} + \frac{1827,5}{n} \right)$$

$$\Rightarrow n = 5,9 \Rightarrow \boxed{n = 6}$$

$$\Rightarrow \alpha = 88,233''$$

$$\Rightarrow A_{2V_4V_5} = 311,767''$$

2.0

Cadena:

Triángulo 1:

$$A_1 = 40,268$$

$$B_1 = 52,907$$

$$C_1 = 46,825$$

Triángulo 2:

$$A_2 = 54,516$$

$$B_2 = 65,368$$

$$C_2 = 80,116$$

Triángulo 3:

$$A_3 = 66,963$$

$$B_3 = 82,424$$

$$C_3 = 50,613$$

Condición de convergencia:

$$\sum C_i \text{ impares} = 46,825 + 50,613 = 127,438''$$

$$\sum C_i \text{ pares} = 80,116''$$

$$\Rightarrow I' = \sum C_i \text{ impares} - \sum C_i \text{ pares} = 47,322$$

$$\Rightarrow \epsilon = I' - 47,01 = 0,312''$$

↑  
umbral

0,5



• Corrijo Angulo:

Pares /  $C_2' = 80,116 + \frac{0,312}{3} = 80,220$

$A_2' = 54,516 - \frac{0,312}{3} = 54,464$

$B_2' = 65,368 - \frac{0,312}{6} = 65,316$

Impares /  $A_1' = 70,320$

$A_3' = 67,015$

$B_1' = 52,959$

$B_3' = 82,476$

$C_1' = 76,721$

$C_3' = 50,509$

0.5

• Condición de lodo:

$\frac{\text{sen}(A_1)\text{sen}(A_2)\text{sen}(A_3)}{\text{sen}(B_1)\text{sen}(B_2)\text{sen}(B_3)} = \frac{L_1}{L_2}$

$L_2$

empleado

$\left. \begin{array}{l} \prod \text{sen}(A_i) = 0,586 \\ \prod \text{sen}(B_i) = 0,608 \end{array} \right\} \Rightarrow \frac{L_2'}{L_1} = 0,963 \quad \wedge \quad \frac{L_2}{L_1} = 1,045$

$\Rightarrow \epsilon = \frac{L_2'}{L_1} - \frac{L_2}{L_1} = -0,082$

0.5

Ahora calculo  $X = \frac{-63,662 \cdot \epsilon}{\frac{L_2}{L_1} (\sum \cot(A_i') + \sum \cot(B_i'))}$

$\boxed{X = 1,335}$

0.5

Ahora  $A_i'' = A_i' + X$

$B_i'' = B_i' - X$

• Finalmente:

$A_1 = 71,655$	$A_2 = 55,799$	$A_3 = 68,350$
$B_1 = 51,624$	$B_2 = 63,981$	$B_3 = 81,1413$
$C_1 = 76,721$	$C_2 = 80,220$	$C_3 = 50,509$

• Transporte de coordenadas:

$$A_{2L_1} = 42,18^{\circ}$$

$$A_{2d_1} = A_{2L_1} + A_1 = 113,835^{\circ}$$

$$A_{2d_2} = A_{2d_1} - 200 + B_1 + C_2 + A_3 = 114,029^{\circ} \quad (1.0)$$

Por terreno del seno:  $d_1 = 10,602 \text{ m}$

$$d_2 = 6,974 \text{ m}$$

$$\Delta E_{V_1 P_{C1}} = 10,353 ; \Delta N_{V_1 P_{C1}} = -2,286$$

$$\Delta E_{P_{C1} V_2} = 6,805 ; \Delta N_{P_{C1} V_2} = -1,524$$

$$\Rightarrow \left[ \begin{array}{l} \Delta E_{V_1 - V_2} = 17,158 \text{ m} \\ \Delta N_{V_1 V_2} = -3,810 \text{ m} \end{array} \right] \quad (0.5)$$

Comprobamos condición.

$$1) \left. \begin{array}{l} A_{2V_4 V_3} = 311,767^{\circ} \\ A_{2P_{C1} - V_2} = 114,029^{\circ} \end{array} \right\} |311,767 - 114,029 - 200| = 2,262$$

$$2) 0,2 \cdot \Delta E_{V_1 - V_2} = 3,432$$

Lo se satisface!!! ok!