Na egzaminie dopuszczalne jest jedynie używanie prostego kalkulatora.

$$v_{d_{pk}} = -\cos A^0_{pk} \cdot \Delta X_p - \sin A^0_{pk} \cdot \Delta Y_p + \cos A^0_{pk} \cdot \Delta X_k + \sin A^0_{pk} \cdot \Delta Y_k + +d^0_{pk} - d^{obs}_{pk}$$

$$v_{K_{pk}} = \frac{\Delta Y^0_{pk}}{(d^0_{pk})^2} \cdot \Delta X_p - \frac{\Delta X^0_{pk}}{(d^0_{pk})^2} \cdot \Delta Y_p - \frac{\Delta Y^0_{pk}}{(d^0_{pk})^2} \cdot \Delta X_k + \frac{\Delta X^0_{pk}}{(d^0_{pk})^2} \cdot \Delta Y_k - \Delta C_p + A^0_{pk} - C^0_p - K^{obs}_{pk}$$

$$v_{\alpha_{pk}} = \frac{\Delta Y^0_{cl}}{(d^0_{cl})^2} \cdot \Delta X_l - \frac{\Delta X^0_{cl}}{(d^0_{cl})^2} \cdot \Delta Y_l - \frac{\Delta Y^0_{cp}}{(d^0_{cp})^2} \cdot \Delta X_p + \frac{\Delta X^0_{cp}}{(d^0_{cp})^2} \cdot \Delta Y_p + \left( \frac{\Delta Y^0_{cp}}{(d^0_{cp})^2} - \frac{\Delta Y^0_{cl}}{(d^0_{cl})^2} \right) \cdot \Delta X_c + \left( -\frac{\Delta X^0_{cp}}{(d^0_{cp})^2} + \frac{\Delta X^0_{cl}}{(d^0_{cl})^2} \right) \cdot \Delta Y_c + \alpha^0_{lcp} - \alpha^{obs}_{lcp}$$

$$a = \hat{\sigma}_0 \cdot \sqrt{2\lambda_1 \cdot F_\gamma},\ b = \hat{\sigma}_0 \cdot \sqrt{2\lambda_2 \cdot F_\gamma},\ \varphi = \frac{1}{2} \operatorname{arctg} \left( \frac{2 \cdot Q_{\hat{X}_i \hat{Y}_i}}{Q_{\hat{X}_i} - Q_{\hat{Y}_i}} \right)$$

$$\hat{C}_{\hat{X}} = \hat{\sigma}^2_0 \cdot (A^{\mathrm{T}} P A)^{-1}, \quad \hat{C}_{\hat{V}} = \hat{\sigma}^2_0 \left( P^{-1} - A \cdot (A^{\mathrm{T}} P A)^{-1} A^{\mathrm{T}} \right), \quad \hat{C}_{\hat{h}} = \hat{\sigma}^2_0 \left( A \cdot (A^{\mathrm{T}} P A)^{-1} A^{\mathrm{T}} \right)$$

$$\hat{V} = -P^{-1} B^{\mathrm{T}} (B P^{-1} B^{\mathrm{T}})^{-1} \Delta.$$