1. (10 pts) Describe the *range convention* and the *summation convention*, and give two examples for each of them.

2. (10 pts) Find (*a*) the determinant $\det \mathbf{A}$, (*b*) the inverse $\mathbf{A}^{-1}$ via the use of $\det \mathbf{A}$ and the adjoint of $\mathbf{A}$ for

$$\mathbf{A} = \begin{bmatrix} 6 & 3 & 8 \\ -5 & -2 & -10 \\ -2 & -1 & -3 \end{bmatrix}$$

Answer to Prob. 2:

(*a*) $\det \mathbf{A} = -1,$

(*b*) $\mathbf{A}^{-1} = \begin{bmatrix} 4 & -1 & 14 \\ -5 & 2 & -20 \\ -1 & 0 & -3 \end{bmatrix}$