2.53(b)

1 2.53(b), §1 Asked

Asked: Find the inverse of

$$\begin{pmatrix} 2 & 3 \\ 4 & 5 \end{pmatrix}$$

2 2.53(b), §2 Solution

Use minors:

$$a_{ij}^{-1\,T} = (-1)^{i+j}|A_{ij}|/|A|$$

$$\begin{pmatrix} 2 & 3 \\ 4 & 5 \end{pmatrix}^{-1} = \frac{1}{\begin{vmatrix} 2 & 3 \\ 4 & 5 \end{vmatrix}} \begin{pmatrix} 5 & -4 \\ -3 & 2 \end{pmatrix}^{T}$$

$$= \frac{1}{-2} \begin{pmatrix} 5 & -3 \\ -4 & 2 \end{pmatrix} = \begin{pmatrix} -5/2 & 3/2 \\ 2 & -1 \end{pmatrix}$$