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Task: CE5021 E-tivity 4

$A = \begin{bmatrix} 1 & 3 \\ 5 & 7 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 2 \\ 4 & 6 \end{bmatrix}$ $C = \begin{bmatrix} 2 & 0 \\ 0 & 4 \end{bmatrix}$

$\det A = 1.7 - 3.5$
$= 7 - 15$
$= -8$

$\det B = 3.6 - 2.4$
$= 18 - 8$
$= 10$

$\det C = 2.4 - 0.0$
$= 8 - 0$
$= 8$

$A^{-1} = \frac{1}{-8}\begin{pmatrix} 7 & -3 \\ -5 & 1 \end{pmatrix}$
$= \begin{bmatrix} -\frac{7}{8} & \frac{3}{8} \\ \frac{5}{8} & -\frac{1}{8} \end{bmatrix} = \begin{bmatrix} -0.875 & 0.375 \\ 0.625 & -0.125 \end{bmatrix}$

$B^{-1} = \frac{1}{10}\begin{bmatrix} 6 & -2 \\ -4 & 3 \end{bmatrix}$
$= \begin{bmatrix} \frac{6}{10} & -\frac{2}{10} \\ -\frac{4}{10} & \frac{3}{10} \end{bmatrix} = \begin{bmatrix} 0.6 & -0.2 \\ -0.4 & 0.3 \end{bmatrix}$

$C^{-1} = \frac{1}{8}\begin{bmatrix} 4 & 0 \\ 0 & 2 \end{bmatrix} =$
$= \begin{bmatrix} \frac{4}{8} & 0 \\ 0 & \frac{2}{8} \end{bmatrix} = \begin{bmatrix} 0.5 & 0 \\ 0 & 0.25 \end{bmatrix}$