

$$c1. (A^{-1} - 2I)^T = -2 \begin{pmatrix} 1 & 4 \\ 3 & 11 \end{pmatrix}$$

$$\Rightarrow (A^{-1} - 2I)^T = \begin{pmatrix} -2 & -8 \\ -6 & -22 \end{pmatrix}$$

$$\Rightarrow A^{-1} - 2I = \begin{pmatrix} -2 & -8 \\ -6 & -22 \end{pmatrix}^T$$

$$\Rightarrow A = \left(\begin{pmatrix} -2 & -8 \\ -6 & -22 \end{pmatrix}^T + 2I \right)^{-1}$$

$$\Rightarrow A = \begin{pmatrix} 5/12 & -1/8 \\ -1/6 & 0 \end{pmatrix}$$

Ba 7:

$$a) \begin{cases} 2x - y = 4 \\ 3x + 2y = -4 \end{cases}$$

$$\Rightarrow \bar{A} = \begin{pmatrix} 2 & -1 & 4 \\ 3 & 2 & -4 \end{pmatrix}$$

$$\Leftrightarrow \bar{A} = \begin{pmatrix} 1 & -1/2 & 2 \\ 0 & 7/2 & -10 \end{pmatrix}$$

$$\Rightarrow \begin{cases} x - 1/2 y = 2 \\ 7/2 y = -10 \end{cases}$$

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$$\Rightarrow \begin{cases} x = 3, 6 \\ y = 3, 2 \end{cases}$$

$$\Rightarrow \begin{cases} x = \frac{6}{7} \\ y = \frac{20}{7} \end{cases}$$