

Problem 1. Invert the matrix

$$A = \begin{bmatrix} 1 & 3 & 0 \\ 0 & 1 & -1 \\ 2 & 6 & 1 \end{bmatrix}.$$

Solution 1.

$$A^{-1} = \begin{bmatrix} 7 & -3 & -3 \\ -2 & 1 & 1 \\ -2 & 0 & 1 \end{bmatrix}$$

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Problem 2. Invert the matrix

$$B = \begin{bmatrix} 1 & 4 & 0 \\ 0 & 1 & -3 \\ 1 & 4 & 1 \end{bmatrix}.$$

Solution 2.

$$B^{-1} = \begin{bmatrix} 13 & -4 & -12 \\ -3 & 1 & 3 \\ -1 & 0 & 1 \end{bmatrix}$$

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Problem 3. Invert the matrix

$$C = \begin{bmatrix} 1 & 4 & 0 \\ 0 & 1 & -3 \\ 1 & 4 & 1 \end{bmatrix}.$$

Solution 3.

$$C^{-1} = \begin{bmatrix} 13 & -4 & -12 \\ -3 & 1 & 3 \\ -1 & 0 & 1 \end{bmatrix}$$