

MATH 2130 LINEAR ALGEBRA
HOMEWORK 9
DUE 2025 OCTOBER 26

PROBLEM 1 (S6)

Evaluate

$$\begin{bmatrix} 5 & 1 & 0 \\ 1 & 4 & 2 \\ 1 & 0 & 1 \end{bmatrix} \begin{bmatrix} 4 & -1 & 2 \\ 1 & 5 & -10 \\ -4 & 1 & 19 \end{bmatrix}.$$

PROBLEM 2 (S7)

Find the inverse matrix of

$$\begin{bmatrix} 1 & 1 & 0 \\ 2 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix}.$$

PROBLEM 3 (S7)

Find the inverse matrix of

$$\begin{bmatrix} -2 & 1 & 3 \\ 4 & -1 & -2 \\ 1 & 0 & 1 \end{bmatrix}.$$

PROBLEM 4 (S7)

Find the inverse matrix of

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

PROBLEM 5 (S7)

Find the inverse matrix of

$$\begin{bmatrix} 1 & 2 & -4 \\ 4 & 3 & -2 \\ 0 & 1 & 2 \end{bmatrix}.$$