Show that $A = \begin{bmatrix} 1 & 2 & -4 \\ -3 & -4 & 6 \\ 0 & 0 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} -5 & -2 & -2 \\ 12 & 5 & 6 \\ -6 & -3 & -4 \end{bmatrix}$ are similar matrices by finding an invertible matrix P satisfying $A = P^{-1}BP$.

$$P^{-1} = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}, \quad P = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}.$$

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$$P^{-1} = \begin{bmatrix} \boxed{2} & \boxed{3} & \boxed{4} \\ \boxed{-6} & \boxed{-6} & \boxed{-7} \\ \boxed{-3} & \boxed{-2} & \boxed{-2} \end{bmatrix}, \quad P = \begin{bmatrix} \boxed{2} & \boxed{2} & \boxed{-3} \\ \boxed{-9} & \boxed{-8} & \boxed{10} \\ \boxed{6} & \boxed{5} & \boxed{-6} \end{bmatrix}.$$