

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

(a) Find the determinant of A .

$$\det(A) = \boxed{}$$

(b) Find the matrix of cofactors of A .

$$C = \begin{bmatrix} \boxed{} & \boxed{} & \boxed{} \\ \boxed{} & \boxed{} & \boxed{} \\ \boxed{} & \boxed{} & \boxed{} \end{bmatrix}$$

(c) Find the adjugate of A .

$$\text{adj}(A) = \begin{bmatrix} \boxed{} & \boxed{} & \boxed{} \\ \boxed{} & \boxed{} & \boxed{} \\ \boxed{} & \boxed{} & \boxed{} \end{bmatrix}$$

(d) Find the inverse of A .

$$A^{-1} = \begin{bmatrix} \boxed{} & \boxed{} & \boxed{} \\ \boxed{} & \boxed{} & \boxed{} \\ \boxed{} & \boxed{} & \boxed{} \end{bmatrix}$$

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

(a) Find the determinant of A .

$$\det(A) = \boxed{39}$$

(b) Find the matrix of cofactors of A .

$$C = \begin{bmatrix} \boxed{-9} & \boxed{3} & \boxed{-9} \\ \boxed{6} & \boxed{-15} & \boxed{6} \\ \boxed{-11} & \boxed{8} & \boxed{2} \end{bmatrix}$$

(c) Find the adjugate of A .

$$\text{adj}(A) = \begin{bmatrix} \boxed{-9} & \boxed{6} & \boxed{-11} \\ \boxed{3} & \boxed{-15} & \boxed{8} \\ \boxed{-9} & \boxed{6} & \boxed{2} \end{bmatrix}$$

(d) Find the inverse of A .

$$A^{-1} = \begin{bmatrix} \boxed{-3/13} & \boxed{-2/13} & \boxed{-11/39} \\ \boxed{1/13} & \boxed{-5/13} & \boxed{8/38} \\ \boxed{-3/13} & \boxed{2/13} & \boxed{2/39} \end{bmatrix}$$