Tamkang University on Lanyang Campus

Linear Algebra AI 1st quiz Date: 14 Oct, 2019

Reg. No.:_____ **Name:**_____

Cheating will not be tolerated!!!

1. Please find the **adjoint** of the matrix $A = \begin{bmatrix} 3 & -2 & 6 \\ 0 & -3 & 1 \\ 0 & 4 & 7 \end{bmatrix}$ **Ans:**_____

(A) $\begin{bmatrix} -25 & 0 & 0 \\ 38 & 21 & -12 \\ 16 & -3 & -9 \end{bmatrix}$ (B) $\begin{bmatrix} -25 & 0 & 0 \\ -38 & 21 & 12 \\ 16 & 3 & -9 \end{bmatrix}$ (C) $\begin{bmatrix} -25 & 38 & 16 \\ 0 & 21 & -3 \\ 0 & -12 & -9 \end{bmatrix}$ (D) $\begin{bmatrix} -25 & -38 & 16 \\ 0 & 21 & 3 \\ 0 & 12 & -9 \end{bmatrix}$

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2. Please find the **inverse** of the matrix $A = \begin{bmatrix} 3 & -2 & 6 \\ 0 & -3 & 1 \\ 0 & 4 & 7 \end{bmatrix}$ **Ans:**_____

(A) $\begin{bmatrix} \frac{1}{3} & 0 & 0 \\ \frac{-38}{75} & \frac{-7}{25} & \frac{4}{25} \\ \frac{-16}{75} & \frac{1}{25} & \frac{3}{25} \end{bmatrix}$ (B) $\begin{bmatrix} 1 & \frac{-38}{25} & \frac{-16}{25} \\ 0 & \frac{-21}{25} & \frac{3}{25} \\ 0 & \frac{12}{25} & \frac{9}{25} \end{bmatrix}$ (C) $\begin{bmatrix} \frac{1}{3} & \frac{38}{75} & \frac{-16}{75} \\ 0 & \frac{-7}{25} & \frac{-1}{25} \\ 0 & \frac{-4}{25} & \frac{3}{25} \end{bmatrix}$ (D) $\begin{bmatrix} \frac{1}{3} & \frac{-38}{75} & \frac{-16}{75} \\ 0 & \frac{-7}{25} & \frac{1}{25} \\ 0 & \frac{4}{25} & \frac{3}{25} \end{bmatrix}$

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3. Please find the inverse of the following matrix.

$$\begin{bmatrix} 2 & 4 \\ 5 & 10 \end{bmatrix}^{-1} =$$

4. Please find the inverse of the following matrix.

$$\begin{bmatrix} 2 & 3 \\ 7 & 10 \end{bmatrix}^{-1} =$$

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