

If A =

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

Then $\text{adj}(3A^2 + 12A)$ is equal to:

Solution:

Given that A =

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

$$3A^2 =$$

$$\begin{bmatrix} 48 & -27 \\ -36 & 39 \end{bmatrix}$$

$$12A =$$

$$\begin{bmatrix} 24 & -36 \\ -48 & 12 \end{bmatrix}$$

$$3A^2 + 12A =$$

$$\begin{bmatrix} 72 & -63 \\ -84 & 51 \end{bmatrix}$$

$$\text{adj}(3A^2 + 12A) =$$

$$\begin{bmatrix} 51 & 63 \\ 84 & 72 \end{bmatrix}$$