If $|B| = \frac{1}{3}$, then $(3A)^{-1}A\ adj(B)$ is equal to :

Solution:

$$\underbrace{(3A)^{-1}}\underbrace{A\ adj(B)} = \frac{1}{3}(A)^{-1}A \cdot adj\ B$$

$$= \frac{1}{3} \cdot I \cdot B^{-1} \cdot |B|$$

$$= \frac{1}{3} \cdot I \cdot B^{-1} \cdot \frac{1}{3}$$

$$\boxed{= \frac{1}{9}B^{-1}}$$

$$(kA)^{-1} = \frac{1}{k}A^{-1}$$

$$adj\ (A) = |A|A^{-1}$$

A $3B^{-1}$

B B^{-1}

C $\frac{1}{9}B^{-1}$

D I

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