

Q4.

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49.  $(aA)^{-1} = \frac{1}{a}A^{-1}$ , where  $a$  is any real number and  $A$  is a square matrix.

**Sol. False**

Since, we know that, if  $A$  is a non-singular square matrix, then for any scalar  $a$  (non-zero),  $aA$  is invertible such that

$$(aA)\left(\frac{1}{a}A^{-1}\right) = \left(a \cdot \frac{1}{a}\right)(A \cdot A^{-1}) = I$$

i.e.,  $\left(\frac{1}{a}A^{-1}\right)$  is inverse of  $(aA)$ .

or  $(aA)^{-1} = \frac{1}{a}A^{-1}$ , where  $a$  is any non-zero scalar.

In the above statement it is not given that  $A$  is non-singular matrix. Hence, statement is false.