## Properties of Inverse of a matrix

If matrix $A$ is invertible , then

- $(AB)^{-1} = B^{-1}A^{-1}$

Proof : $(AB)(AB)^{-1} = I$ $AA^{-1} = I$

$A^{-1}(AB)(AB)^{-1} = A^{-1}I$

$B(AB)^{-1} = A^{-1}I$

$B^{-1}B(AB)^{-1} = B^{-1}A^{-1}$

$(AB)^{-1} = B^{-1}A^{-1}$

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