Answer on Question #56710 – Math – Linear Algebra

Find all possible matrix products of two different matrices among the three matrices below.

A = -1, 3, 4
0, -2, 5

B= -2, 4, 3
-1, -4, 2
2, 4, 3

C= -3, 2
-1, 6

Solution

Given $\boldsymbol{A} = \begin{pmatrix} \mathbf{-1} & \mathbf{3} & \mathbf{4} \\ \mathbf{0} & \mathbf{-2} & \mathbf{5} \end{pmatrix}$, $\boldsymbol{B} = \begin{pmatrix} \mathbf{-2} & \mathbf{4} & \mathbf{3} \\ \mathbf{-1} & \mathbf{-4} & \mathbf{2} \\ \mathbf{2} & \mathbf{4} & \mathbf{3} \end{pmatrix}$, $\boldsymbol{C} = \begin{pmatrix} \mathbf{-3} & \mathbf{2} \\ \mathbf{-1} & \mathbf{6} \end{pmatrix}$,

calculate

$$\boldsymbol{AB} = \begin{pmatrix} \mathbf{7} & \mathbf{-8} & \mathbf{15} \\ \mathbf{12} & \mathbf{28} & \mathbf{11} \end{pmatrix}$$

$$\boldsymbol{CA} = \begin{pmatrix} \mathbf{3} & \mathbf{-13} & \mathbf{-2} \\ \mathbf{1} & \mathbf{-15} & \mathbf{5} \end{pmatrix}$$

Other products do not exist.