Multiplying Matrices Practice 2: Given the following matrices, perform the operations. **KEY**

$A=\begin{bmatrix}7 & -2\\ -1 & 0\end{bmatrix}$ $B=\begin{bmatrix}3 & 7\\ -2 & 4\end{bmatrix}$ $C=\begin{bmatrix}1 & -5\\ -3 & 2\end{bmatrix}$ $D=\begin{bmatrix}2 & -3 & 1\\ 4 & 2 & -1\\ -2 & 3 & -3\end{bmatrix}$

$E=\begin{bmatrix}4 & 3 & 1\\ -2 & -1 & -1\end{bmatrix}$ $F=\begin{bmatrix}6 & 5 & -2\\ 2 & 4 & -1\\ 3 & 1 & 4\end{bmatrix}$

1. AB + BC $\begin{bmatrix}7 & 40\\ -17 & 11\end{bmatrix}$

2. BE $\begin{bmatrix}-2 & 2 & -4\\ -16 & -10 & -6\end{bmatrix}$

3. EB not possible

4. 3A + C $\begin{bmatrix}22 & -11\\ -6 & 2\end{bmatrix}$

5. ED $\begin{bmatrix}18 & -3 & -2\\ -6 & 1 & 2\end{bmatrix}$

6. DF $\begin{bmatrix}9 & -1 & 3\\ 25 & 27 & -14\\ -15 & -1 & -11\end{bmatrix}$

7. -2(FD) $\begin{bmatrix}-72 & 28 & -14\\ -44 & 2 & -2\\ -4 & -10 & 20\end{bmatrix}$

8. A^2 $\begin{bmatrix}51 & -14\\ -7 & 2\end{bmatrix}$

9. ½(AB) – 2(BC) $\begin{bmatrix}\frac{97}{2} & \frac{45}{2}\\ \frac{53}{2} & \frac{-79}{2}\end{bmatrix}$

10. (A + B)E $\begin{bmatrix}30 & 25 & 5\\ -20 & -13 & -7\end{bmatrix}$

11. 3(AC) $\begin{bmatrix}39 & -117\\ -3 & 15\end{bmatrix}$

12. (B + C)F not possible

13. BE + E $\begin{bmatrix}2 & 5 & -3\\ -18 & -11 & -7\end{bmatrix}$

14. A + 2B – 3C $\begin{bmatrix}10 & 27\\ 4 & 2\end{bmatrix}$

15. 3D – F $\begin{bmatrix}0 & -14 & 5\\ 10 & 2 & -2\\ -9 & 8 & -13\end{bmatrix}$