

**[08-10-10A-T11]**  
*Matrix arith & Alg*

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**■ Find the following products**

$$[1] \quad \begin{pmatrix} 3 & 5 \\ 1 & -5 \\ 6 & 7 \end{pmatrix} \cdot \begin{pmatrix} -3 & 2 & -4 \\ 5 & 7 & 9 \end{pmatrix}$$

$$[2] \quad \begin{pmatrix} 2 & 3 \\ 4 & 5 \\ 7 & 0 \end{pmatrix} \cdot \begin{pmatrix} 4 & 5 & 100 \\ 3 & 4 & 7 \end{pmatrix}$$

$$[3] \quad \begin{pmatrix} 2 & 1 & 1 \\ 0 & 2 & 9 \\ 4 & 9 & 6 \end{pmatrix} \cdot \begin{pmatrix} 3 & 3 & 5 \\ 1 & 0 & 7 \\ 3 & 1 & 0 \end{pmatrix}$$

$$[4] \quad (3 \ 5) \cdot \begin{pmatrix} 1 & 0 & 2 \\ 6 & 5 & 4 \end{pmatrix}$$

$$[5] \quad \begin{pmatrix} 2 \\ 5 \\ 1 \end{pmatrix} \cdot (3 \ 5 \ 2 \ 6 \ 1)$$

$$[6] \quad \begin{pmatrix} 1 & 0 & 5 & 2 \\ 3 & 0 & 1 & 2 \end{pmatrix} \cdot \begin{pmatrix} 2 & 2 & 3 \\ -1 & -5 & 3 \\ -2 & 7 & 1 \\ 1 & 2 & -1 \end{pmatrix}$$

**■ Answers**

[1]  $\{\{16, 41, 33\}, \{-28, -33, -49\}, \{17, 61, 39\}\}$

[2]  $\{\{17, 22, 221\}, \{31, 40, 435\}, \{28, 35, 700\}\}$

[3]  $\{\{10, 7, 17\}, \{29, 9, 14\}, \{39, 18, 83\}\}$

[4]  $\{\{33, 25, 26\}\}$

[5]  $\{\{6, 10, 4, 12, 2\}, \{15, 25, 10, 30, 5\}, \{3, 5, 2, 6, 1\}\}$

[6]  $\{\{-6, 41, 6\}, \{6, 17, 8\}\}$