

Name: _____ Period: _____

Score: _____

HW 9-3 HONORS: Intro to Multiplying Matrices

_____/_____
_____%

Determine whether each matrix product is defined. If so, state the dimensions of the product.

1. $A_{3 \times 5} \cdot B_{5 \times 2}$

Yes

3×2

2. $C_{2 \times 3} \cdot D_{2 \times 3}$

3. $X_{1 \times 3} \cdot Y_{3 \times 1}$

Yes

1×1

Find each product.

4. $\begin{bmatrix} 3 & -5 \end{bmatrix} \cdot \begin{bmatrix} 3 & 5 \\ -2 & 0 \end{bmatrix}$

5. $\begin{bmatrix} 5 \\ 8 \end{bmatrix} \cdot \begin{bmatrix} 3 & -1 & 4 \end{bmatrix}$

$\begin{bmatrix} 15 & -5 & 20 \\ 24 & -8 & 32 \end{bmatrix}$

6. $\begin{bmatrix} 5 & -2 & -1 \\ 8 & 0 & 3 \end{bmatrix} \cdot \begin{bmatrix} -4 & 2 \\ 1 & 0 \end{bmatrix}$

7. $\begin{bmatrix} 4 & -1 \\ 3 & 5 \end{bmatrix} \cdot \begin{bmatrix} 7 \\ 4 \end{bmatrix}$

$\begin{bmatrix} 24 \\ 41 \end{bmatrix}$

8. $\begin{bmatrix} 2 & 3 \\ -8 & -6 \end{bmatrix} \cdot \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

9. $\begin{bmatrix} 1 & -1 & 4 \\ 2 & -2 & 5 \end{bmatrix} \cdot \begin{bmatrix} 2 & 1 \\ -5 & 6 \\ 0 & -3 \end{bmatrix}$

$\begin{bmatrix} 7 & -17 \\ 14 & -25 \end{bmatrix}$

$$10. \begin{bmatrix} -2 \\ 3 \end{bmatrix} \cdot \begin{bmatrix} 2 & -1 & 9 \\ 8 & 7 & 5 \end{bmatrix}$$

$$11. \begin{bmatrix} 3 & 2 & -1 \\ 8 & 9 & 6 \\ 5 & -4 & 2 \end{bmatrix} \begin{bmatrix} -5 \\ 6 \\ 2 \end{bmatrix}$$

$$\begin{bmatrix} -15 \\ 26 \\ -45 \end{bmatrix}$$

Team Members		
Age	Baseball	Softball
7-8	350	280
9-10	320	165
11-14	180	120

The Westfall Youth Baseball and Softball League charges the following registration fees:

Ages 7-8: \$45, Ages 9-10: \$55, Ages 11-14: \$65.

12. Write a matrix for the registration fees and a matrix for the number of players.

13. Multiply the two Matrices to find the total amount of money the League received from baseball and softball registrations.

$$\begin{bmatrix} \$45050 & \$29,475 \end{bmatrix} \text{ OR } \begin{bmatrix} \$45050 \\ \$29,475 \end{bmatrix}$$