Name **Key**   Date _____ Pd _____

CYU 1.5.2 Multiplying Matrices DAY ONE

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Multiplying Matrices	2, 7, 8	1, 3, 4, 10	5, 6, 9, 11 - 14

Multiply each set of matrices, if possible. If not possible, show why the matrices cannot be multiplied and write undefined.

1. $\begin{bmatrix} 0 & 2 \\ -2 & -5 \end{bmatrix} \cdot \begin{bmatrix} 6 & -6 \\ 3 & 0 \end{bmatrix}$ $\begin{bmatrix} 6 & 0 \\ -27 & 12 \end{bmatrix}$

2. $\begin{bmatrix} 6 \\ -3 \end{bmatrix} \begin{bmatrix} -5 & 4 \end{bmatrix}$ $\begin{bmatrix} -30 & 24 \\ 15 & -12 \end{bmatrix}$

3. $\begin{bmatrix} -5 & -5 \\ -1 & 2 \end{bmatrix} \cdot \begin{bmatrix} -2 & -3 \\ 3 & 5 \end{bmatrix}$ $\begin{bmatrix} -5 & -10 \\ 8 & 13 \end{bmatrix}$

4. $\begin{bmatrix} -3 & 5 \\ -2 & 1 \end{bmatrix} \cdot \begin{bmatrix} 6 & -2 \\ 1 & -5 \end{bmatrix}$ $\begin{bmatrix} -13 & -19 \\ -11 & -1 \end{bmatrix}$

5. $\begin{bmatrix} 0 & -5 \\ -3 & 1 \\ -5 & 1 \end{bmatrix} \begin{bmatrix} -4 & 4 \\ -2 & -4 \end{bmatrix}$ $\begin{bmatrix} -10 & -20 \\ 10 & -16 \\ 18 & -24 \end{bmatrix}$

6. $\begin{bmatrix} 5 & 3 & 5 \\ 1 & 5 & 0 \end{bmatrix} \cdot \begin{bmatrix} -4 & 2 \\ -3 & 4 \\ 3 & -5 \end{bmatrix}$ $\begin{bmatrix} -14 & -3 \\ -19 & 22 \end{bmatrix}$

7. $\begin{bmatrix} -5 \\ 6 \\ 0 \end{bmatrix} \begin{bmatrix} 3 & -1 \end{bmatrix}$ $\begin{bmatrix} -15 & 5 \\ 18 & 6 \\ 0 & 0 \end{bmatrix}$

8. $\begin{bmatrix} 3 & 2 & 5 \\ 2 & 3 & 1 \end{bmatrix} \cdot \begin{bmatrix} 4 & 5 & -5 \\ 5 & -1 & 6 \end{bmatrix}$ **undefined**   2×3 / 2×3

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

$$\begin{bmatrix} -8 & 14 \\ 33 & 6 \\ -24 & -60 \end{bmatrix}$$

10. $\begin{bmatrix} 5 & 4 \\ 2 & -1 \end{bmatrix} \begin{bmatrix} -4 \\ 3 \end{bmatrix}$

$$\begin{bmatrix} -8 \\ -11 \end{bmatrix}$$
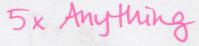
11. $\begin{bmatrix} 2 & -5v \end{bmatrix} \cdot \begin{bmatrix} -5u & -v \\ 0 & 6 \end{bmatrix}$

$$\begin{bmatrix} -10u & -32v \end{bmatrix}$$

12. $\begin{bmatrix} -4 & -y \\ -2x & -4 \end{bmatrix} \begin{bmatrix} -4x & 0 \\ 2y & -5 \end{bmatrix}$

$$\begin{bmatrix} 16x - 2y^2 & 5y \\ 8x^2 - 8y & 20 \end{bmatrix}$$

13. Write an example of a matrix multiplication that is undefined.

$$2 \times 2 \quad / \quad 3 \times 1$$

14. In the expression A · B, if A is a 3 x 5 matrix then what could be the dimensions of B?

$$5 \times \text{Anything}$$

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!
How confident are you with the skills this CYU covered? Circle the score you would give
yourself.

1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!