Accel Precalc Notes: Multiply Matrices Name _____

Unit 3: Matrices

Lesson 2

EQ:

- Since each matrix represents an _____ of data, rules for multiplying them together depends on the _____.

Condition Necessary to Multiply Two Matrices:

# of _____ of 1st matrix = # of _____ of 2nd matrix

A	x	B	=	AB
_____		_____		_____

Ex. 1 Matrix D is a ____ by ____. Matrix A is a ____ by ____. $D=\begin{bmatrix} 2 & 1 & 3 \\ -2 & 2 & 1 \end{bmatrix}$ $A=\begin{bmatrix} 2 & 1 \\ 3 & 2 \\ -2 & 2 \end{bmatrix}$

Therefore the product WILL exist. It will be a _____ by _____ matrix.

❖ Process to Multiply Matrices:

$Given\ \ A=\begin{bmatrix} 1 & 0 \\ -3 & 2 \end{bmatrix}\ \ B=\begin{bmatrix} -1 & 4 \\ 3 & 5 \end{bmatrix},\ \ AB=$ $\begin{bmatrix} \_\_\_\_\_ & \_\_\_\_\_ \\ \_\_\_\_\_ & \_\_\_\_\_ \end{bmatrix}$

Ex. 2 Find the product given $J = \begin{bmatrix} 8 & -2 & 1 \\ 3 & 0 & -5 \end{bmatrix}$ $K = \begin{bmatrix} 1 & 4 \\ 6 & -2 \\ 0 & 3 \end{bmatrix}$

a) JK

b) KJ

Ex. 3 Find the product given $R = \begin{bmatrix} 2 & -3 \\ 0 & 5 \\ -2 & 0 \end{bmatrix}$ $W = \begin{bmatrix} 5 & 0 \\ 4 & 7 \end{bmatrix}$

a) RW

b) WR

Ex. 4 Find each product given $A = \begin{bmatrix} 1 & 5 \\ -3 & 0 \end{bmatrix}$, $B = \begin{bmatrix} 8 & 1 \\ 0 & 4 \\ 2 & 5 \end{bmatrix}$, $C = \begin{bmatrix} 1 & -3 & 4 \end{bmatrix}$.

a) BA

b) (CB)A

- ASSIGNMENT: Textbook p. 577 – 578 #3, 7, 17, 33 – 35, 39