

Precal Spring 2022: Quiz #2

Name: _____

March 22, 2022

1. Use matrices A and B below:

$$A = \begin{bmatrix} 5 & -2 & 0 \\ 0 & 3 & 1 \\ 2 & 3 & 1 \end{bmatrix}$$

$$B = \begin{bmatrix} 3 & 1 & 1 \\ 1 & -2 & 1 \\ 1 & 1 & 2 \end{bmatrix}$$

Find the value of $(2A \times B) - B$:

$$(2 \times -4 \times -13) - 13$$

$$104 - 13$$

$$91$$

2. Assume A is a 3×2 matrix and B is a 2×4 matrix.

(a) Can you add A and B ? Explain why or why not in a complete sentence.

You can add them just like that. The problem needs to be broken down further.

(b) Can you multiply A and B ? Explain why or why not in a complete sentence.

Yes you can after you find the answers individually for A and B you can multiply it.

3. Solve the system of linear equations to the right.

$$\begin{cases} 7x - 5y = -2 \\ -4x + 3y = 1 \end{cases}$$

Be sure to:

- Convert to $AX = B$
- Find A^{-1}
- Solve for variables using $X = A^{-1}B$
- show all work!

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

$$A^{-1} = \begin{bmatrix} 35 \\ 47 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 35 \\ 47 \end{bmatrix} \begin{bmatrix} -2 \\ 1 \end{bmatrix}$$

$$\begin{aligned} x &= 1 \\ y &= -1 \end{aligned}$$

$$(x, y) = (-1, -1)$$

You can use this space for extra work!