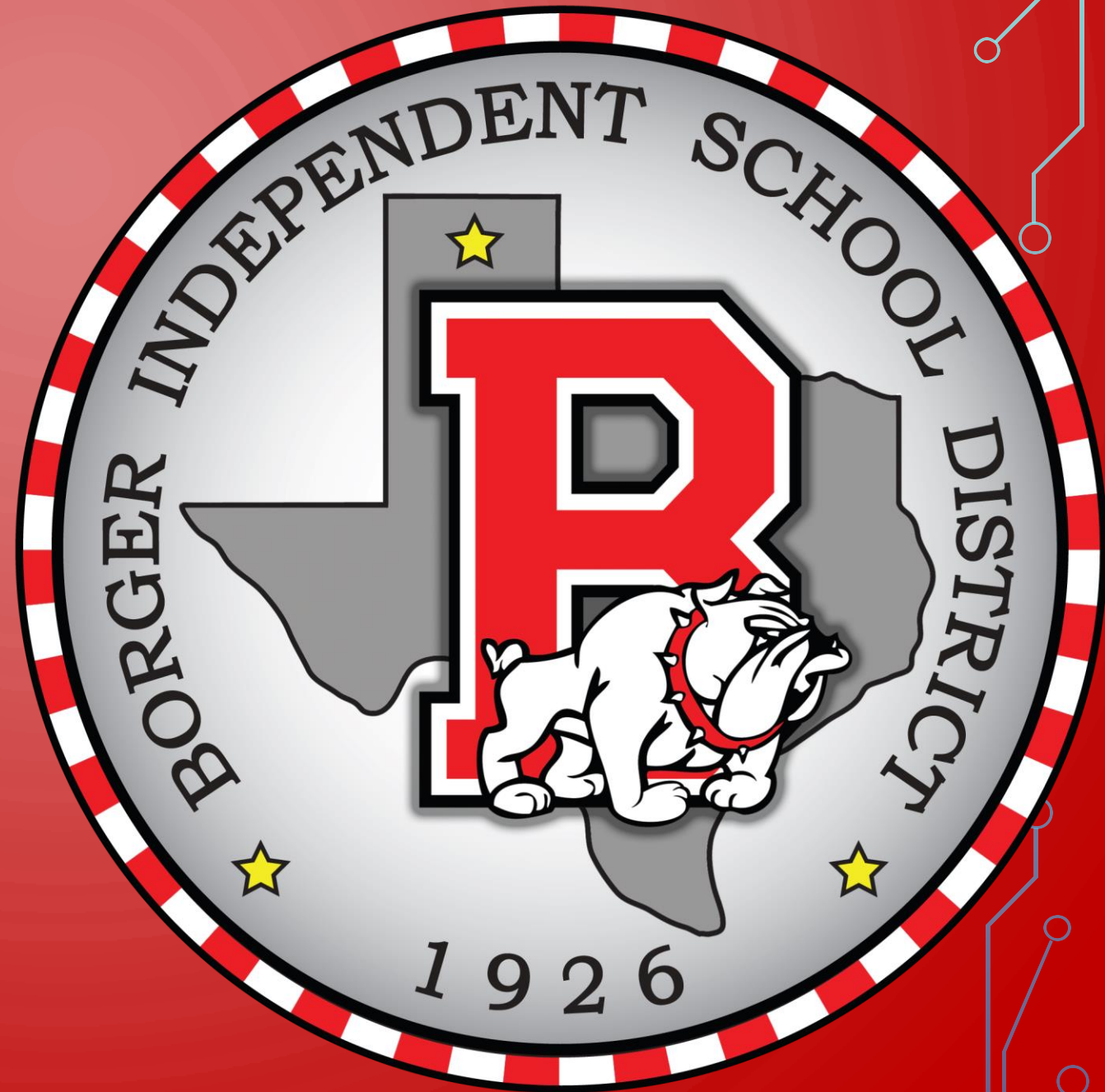
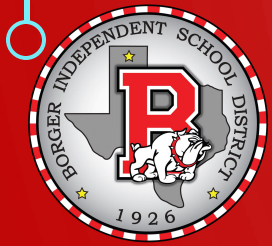


BOARD NOTES

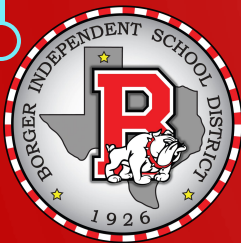
10 DECEMBER 2019





2A.3 (B) solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution;

We will be able to multiply two matrices.



WHAT WE NEED:

- TI-84
- Definition:
 - Consistent
 - Inconsistent
- Solve for a variable

I WILL BE ABLE TO COMPLETE MY HOMEWORK GIVEN THE

- Matrix



1) ADD OR SUBTRACT 2 MATRICES
MUST BE SAME SIZE

2) 2 MATRICES ARE EQUAL
a) SAME SIZE

$$b) a_{ij} = b_{ij}$$

MEANS ELEMENTS OF A
IS EQUAL TO ELEMENTS
B

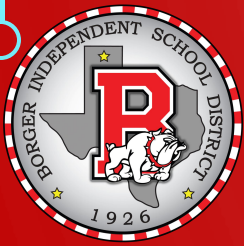
3) MULT 2 MATRICES

a) 1ST COL = 2ND ROW

ORDER ORDER

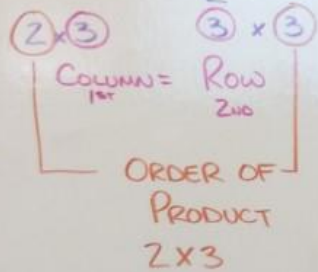
b) 1ST ROW x 2ND COL

ORDER ORDER



$2 \times 3 \cdot 2 \times 3$

$$\begin{bmatrix} 1 & 0 & 3 \\ 2 & -1 & -2 \end{bmatrix} \cdot \begin{bmatrix} -2 & 4 & 2 \\ 1 & 0 & 0 \\ -1 & 1 & -1 \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{bmatrix}$$

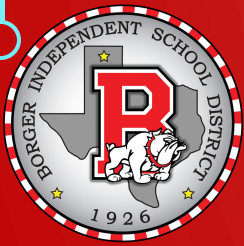


$$\begin{aligned} 2 \cdot 3 &= 6 \\ 3 \cdot 2 &= 6 \end{aligned}$$

$$\dim A = 1 \times 4 \quad \dim B = 4 \times 5$$

$$AB = 1 \times 5$$

$$BA = \text{DNE}$$



$$\begin{bmatrix} 2 & 3 \\ -3 & 4 \end{bmatrix} \cdot \begin{bmatrix} 5 & 6 \\ 7 & -8 \end{bmatrix} = \begin{bmatrix} 2 \cdot 5 + 3 \cdot 7 & 2 \cdot 6 + 3 \cdot -8 \\ -3 \cdot 5 + 4 \cdot 7 & -3 \cdot 6 + 4 \cdot -8 \end{bmatrix}$$
$$= \begin{bmatrix} 31 & -12 \\ 13 & -50 \end{bmatrix}$$



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

$\begin{matrix} 2 \times 2 & = & 2 \times 3 \\ \text{---} & & \text{---} \\ & 2 \times 3 & \\ \text{---} & & \text{---} \\ \text{RESULT} & & \end{matrix}$

$$= \begin{bmatrix} -8 & 12 & 8 \\ -5 & -3 & -23 \end{bmatrix}$$