

## ROW REDUCTION WORKSHEET

SEPTEMBER 9, 2024

- (1) Compute the reduced row echelon form of the following matrix and circle the pivots.

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

(2) Compute the reduced row echelon form of the following matrix and circle the pivots.

$$\begin{bmatrix} 0 & 2 & -1 & 0 \\ -1 & 3 & 2 & -1 \\ 0 & -4 & 2 & 0 \end{bmatrix}$$

- (3) Consider the linear system corresponding to the augmented matrix below. Write the solution set in parametric form.

$$\left[ \begin{array}{ccc|c} 1 & 0 & -7/2 & 1 \\ 0 & 1 & -1/2 & 0 \\ 0 & 0 & 0 & 0 \end{array} \right]$$

$$\text{Answers: (1) } \begin{bmatrix} 1 & 0 & 0 & -1/2 \\ 0 & 1 & 0 & 1/2 \\ 0 & 0 & 1 & -1/2 \end{bmatrix} \quad (2) \begin{bmatrix} 1 & 0 & -7/2 & | & 1 \\ 0 & 1 & -1/2 & | & 0 \\ 0 & 0 & 0 & | & 0 \end{bmatrix} \quad (3) \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} 7/2 \\ 1/2 \\ 1 \end{bmatrix} t + \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}$$