


True or False:  $A = \begin{bmatrix} 1 & 1 & 3 & 2 \\ 0 & 2 & 0 & -5 \\ 3 & 1 & 2 & 3 \end{bmatrix}$  is in echelon form

True or False:  $B = \begin{bmatrix} 3 & 1 & 3 & 2 \\ 0 & 2 & -2 & -5 \\ 0 & 0 & 0 & 3 \end{bmatrix}$  is in echelon form

True or False:  $C = \begin{bmatrix} 1 & 0 & 3 & 2 \\ 0 & 1 & -2 & -5 \\ 0 & 0 & 0 & 3 \end{bmatrix}$  is in *reduced* echelon form

True or False:  $D = \begin{bmatrix} 1 & 0 & 3 & 0 \\ 0 & 1 & -2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$  is in *reduced* echelon form

$$\begin{bmatrix} 1 & 0 & 2 & 7 \\ 3 & 2 & 0 & 8 \\ 1 & 1 & 2 & -11 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 0 & 2 & 7 \\ 0 & 2 & -6 & -13 \\ 0 & 0 & 3 & -\frac{23}{2} \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 0 & 0 & \frac{44}{3} \\ 0 & 1 & 0 & -18 \\ 0 & 0 & 1 & -\frac{23}{6} \end{bmatrix}$$

  
Pivot Columns

$$\begin{bmatrix} 1 & 0 & 2 & 7 \\ 3 & 2 & 0 & 8 \\ 1 & 1 & 2 & -11 \end{bmatrix} \rightarrow \begin{bmatrix} \textcircled{1} & 0 & 2 & 7 \\ 0 & \textcircled{2} & -6 & -13 \\ 0 & 0 & \textcircled{3} & -\frac{23}{2} \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 0 & 0 & \frac{44}{3} \\ 0 & 1 & 0 & -18 \\ 0 & 0 & 1 & -\frac{23}{6} \end{bmatrix}$$

Pivot Values

Find the general solutions of the system whose augmented matrix is

$$\begin{bmatrix} 1 & 2 & 0 & 3 & 4 \\ 2 & 4 & 1 & 4 & 11 \\ 4 & 8 & 3 & 6 & 25 \end{bmatrix}$$