

Reduced row echelon form:

$$A = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 4 & 5 & 6 & 7 \\ 6 & 7 & 8 & 9 \end{pmatrix} \rightarrow \begin{pmatrix} 1 & 2 & 3 & 4 \\ 0 & -3 & -6 & -9 \\ 0 & -5 & -10 & -15 \end{pmatrix} \left[\begin{array}{c} -4 \\ -6 \end{array} \right]$$

$$2^{\text{nd}} \text{ row} \div 3$$

$$3^{\text{rd}} \text{ row} \div 5$$

$$\left[\begin{array}{cccc} 1 & 2 & 3 & 4 \\ 0 & 1 & 2 & 3 \\ 0 & 1 & 2 & 3 \end{array} \right] \left[\begin{array}{c} -2 \\ -1 \end{array} \right]$$



4 pivots

$$\left[\begin{array}{cccc} 1 & 0 & -1 & -2 \\ 0 & 1 & 2 & 3 \\ 0 & 0 & 0 & 0 \end{array} \right]$$

become 1

Reduced
row
echelon
form

($\text{ref}(A)$)