Linear Instens of Equations EQUATION

MATRIX

REPRESENTATION

 $a_{2x} + 3y = 4$ multiply top row x2 4x + y = -24x + 6y = 84x - y = -2 sub-bart Heg. from 2nd b Sy = 10 $4x \cdot ey = -2$ divode Mon ÷5 V y = 2 4x +y = -2 $\begin{pmatrix}
\gamma = 2 \\
4x = -4
\end{pmatrix}$ subtract let ver from 2nd

left hand right hand stille $\begin{pmatrix}
2 & 3 & | & 4 \\
4 & 1 & | & -2 \\
\end{pmatrix}
\begin{pmatrix}
4 & 6 & | & 8 \\
4 & 1 & | & -2 \\
\end{pmatrix}
\begin{pmatrix}
6 & 5 & | & 10 \\
4 & 1 & | & -2 \\
\end{pmatrix}$ $\begin{pmatrix} 0 & 1 & 2 \\ 4 & 1 & -2 \end{pmatrix}$ $\begin{pmatrix} 0 & [& 2 \\ 1 & 0 & 4 \\ 4 & 0 & -4 \end{pmatrix}$



Def. Echelon Form -Zero rows at bollom - Leading non-zero entries neach row go from left bright - Leading non-zero erofnies the entrow one called pirots

Reduced Row Echelon form Echelon Form plus ! - Pivots one (- Anything above and below pits are Zero

GOAL: Use elementany vous operations to reduce motority to reduced row echelon form

SPEP 1: Put its echelon form STRATEGY - Find pirats and elimbrate (kow(=k))under pirot eliminate $K_{3} - \frac{1}{2}R_{2} \rightarrow \begin{pmatrix} 1 & 2 & 1 & | & -() \\ p_{int} & & | & 1 \\ 0 & -2 & 3 & | & 3 \\ p_{int} & & | & 1 \\ p_{int} & & | & 1 \\ p_{int} & & | & 1 \\ 0 & 0 & -\frac{13}{2} & | & \frac{13}{2} \end{pmatrix}$ This is in echelon form. STEP 2: Co from echelon la reduced row echelon. - Mahe pivots I

- Mahe entries above pirots O





This is now in reduced now echelon form!