Name: _____ Fill in all the gaps

For the AM $\begin{pmatrix} 1 & 0 & 0 & 3 & 4 \\ 1 & 1 & 3 & 4 & 6 \\ 3 & 0 & 0 & 1 & 4 \end{pmatrix}$ the sol is $x = \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{pmatrix} = \begin{pmatrix} \\ \\ \end{pmatrix} + x_3 \begin{pmatrix} \\ \\ \end{pmatrix}$

$\begin{pmatrix} 1 & 0 & 0 & 3 & 4 \\ 0 & 1 & 3 & 1 & 2 \\ 0 & 0 & 0 & -8 & -8 \end{pmatrix}$ 
$\begin{array}{l} \text{row}_1 \\ \text{row}_2 \to \text{row}_2 + (-1\,\text{row}_1) \\ \text{row}_3 \to \text{row}_3 + (-3\,\text{row}_1) \end{array}$

$\begin{pmatrix} 1 & 0 & 0 & 3 & 4 \\ 0 & 1 & 3 & 1 & 2 \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}$ 
$\begin{array}{l} \text{row}_1 \\ \text{row}_2 \\ \text{row}_3 \to -\frac{1}{8}\,\text{row}_3 \end{array}$

$\begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 3 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}$ 
$\begin{array}{l} \text{row}_1 \to \text{row}_1 + (-3\,\text{row}_3) \\ \text{row}_2 \to \text{row}_2 + (-1\,\text{row}_3) \\ \text{row}_3 \end{array}$