Exercise 1

- a) The equations are equivalent to y = 4x 3 and $y = \frac{-x+1}{2}$ respectively and can thus be trivially drawn. They intersect at $x = \frac{7}{9}$.
- b) As determined previously we have

$$4x - 3 = \frac{-x + 1}{2}$$
$$8x - 6 = -x + 1$$
$$9x = 7$$
$$x = \frac{7}{9}$$

which is expected.

Exercise 2

a)

	I II III IV	$\begin{array}{c}1\\0\\3\\1\end{array}$	$ \begin{array}{c} 1 \\ -1 \\ 1 \\ 5 \end{array} $	$3 \\ -1 \\ 5 \\ 11$	$\begin{array}{c}1\\-1\\3\\8\end{array}$	$\left \begin{array}{c}0\\1\\0\\0\end{array}\right $	I II III - 3I IV - I	$\begin{bmatrix} 1 \\ 0 \\ 0 \\ 0 \end{bmatrix}$	$ \begin{array}{c} 1\\ -1\\ -2\\ 4 \end{array} $	$3 \\ -1 \\ -4 \\ 8$	$\begin{array}{c c}1\\-1\\0\\7\end{array}$	0 1 0 0	
I III III - 2II IV + 4II	$\begin{bmatrix} 1 \\ 0 \\ 0 \\ 0 \end{bmatrix}$	1 ((1))	$3 \\ -1 \\ \boxed{-2} \\ 4$	$\begin{array}{c}1\\-1\\2\\3\end{array}$	$\begin{array}{c} 0 \\ 1 \\ -2 \\ 4 \end{array}$	I I IV +	I I II - 2III	$\begin{bmatrix} 1 \\ 0 \\ 0 \\ 0 \end{bmatrix}$	$\begin{array}{c}1\\\hline-1\\0\\0\end{array}$	$3 \\ -1 \\ \boxed{-2} \\ 0$	$\begin{array}{c}1\\-1\\2\\7\end{array}$	$ \begin{array}{c} 0 \\ 1 \\ -2 \\ 0 \end{array} $

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