

# M10 - 9.4 - Line Up Elimination Notes

## Solving a system of equations using elimination

$$\textcircled{1} \quad y = -6x + 2$$

$$\textcircled{2} \quad y + 4x = 0$$

Identify equation # 1

Identify equation # 2

$$\begin{array}{r} y = -6x + 2 \\ +6x + 6x \\ y + 6x = 2 \end{array} \quad \text{Algebra}$$

$y + x = \#$	For
$y + x = \#$	Example

$$\textcircled{1} \quad y + 6x = 2$$

$$\textcircled{2} \quad y + 4x = 0$$

Line up equations

Subtract equations to eliminate y

Solve

Substitute

Solve

Intersection point:

$$\begin{array}{r} (y + 6x = 2) \\ -(y + 4x = 0) \\ \hline 0y + 2x = 2 \end{array}$$

$$\begin{array}{r} 2x = 2 \\ 2x \quad 2 \\ \hline \frac{2x}{2} = \frac{2}{2} \end{array}$$

$$\textcircled{x = 1}$$

$$\textcircled{1} \quad \begin{array}{l} y = -6x + 2 \\ y = -6(1) + 2 \end{array}$$

$$\textcircled{y = -4}$$

$$\textcircled{(1, -4)}$$