Excel Version:

Given:  
\[ y = 2x + 6 \]
\[ y = -3x + 12 \]

Rewrite the equations:
\[ 2x - y = -6 \]
\[ -3x + y = -12 \]

Mathcad Matrix Methods

Define Matrices:

- Coeff := \[
\begin{pmatrix}
2 & -1 \\
-3 & -1
\end{pmatrix}
\]
- Const := \[
\begin{pmatrix}
-6 \\
-12
\end{pmatrix}
\]

Remember, variable name := then ctrl-m (or Matrix Toolbar)

Inverse := Coeff\(^{-1}\)

Take the inverse of the Coefficient Matrix (X\(^{-1}\) from Matrix Toolbar)

Inverse := \[
\begin{pmatrix}
0.2 & -0.2 \\
-0.6 & -0.4
\end{pmatrix}
\]

Check to make sure there truly is an inverse matrix

Variable := Inverse - Const

Multiply the matrices together

Variable := \[
\begin{pmatrix}
1.2 \\
8.4
\end{pmatrix}
\]

Remember: Mathcad starts at element 0 unless told otherwise

x := Variable\(_0\)  
y := Variable\(_1\)

Remember, to access elements of the array, type in array_name[address:=

\[
\begin{align*}
x &= 1.2 \\
y &= 8.4
\end{align*}
\]