Essential Question: How can I use the substitution method to find a solution of two equations with two unknown variables?

Questions:

Am I able to solve for x or y?

May I substitute into any equation after I solve for a variable?

Notes:

Example 1:

\[
\begin{align*}
\text{Sub. } x &= 2 \text{ into any equation } &
\text{y} &= 6x - 11 \\
\text{y} &= 6(2) - 11 \\
\text{y} &= 12 - 11 \\
\text{y} &= 1
\end{align*}
\]

Solution: \((2, 1)\)

Example 2:

\[
\begin{align*}
\text{Sub. } x &= 0 \text{ into any equation } &
\text{y} &= 5x - 3 \\
\text{y} &= 5(0) - 3 \\
\text{y} &= -3 \\
\text{Solution: } (0, -3)
\end{align*}
\]

Summary:

\[
\begin{align*}
3x - 40x + 24 &= 24 \\
-37x + 24 &= 24 \\
-24 &= -24 \\
-37x &= 0 \\
x &= 0
\end{align*}
\]