Example:

1. Solve 1 equation for a single variable.
2. Substitute in the 2nd equation.
3. Solve the equation.
4. Plug back in to solve for the second variable.

15y = -30
-15y + 12y = 2
3y = 2
y = \frac{2}{3}

3x - 12y - 3y = 2
4(x - 3y) - 3y = 2
4x - 12y - 3y = 2
4x - 15y = 2
4x = 8
x = \frac{8}{4}

2x + (2x + 1) = 9
2x + 2x + 1 = 9
4x = 8
x = 2

y = 2(2) + 1
y = 5

x = 2
y = 5

Subs. Union explore & elaborate & explain.
Lily worked this problem using elimination.

\[
6x - 4y = 14 \\
3x - 4y = -1 
\]

**WHY?** Lined up x's w/ x's, y's w/ y's

\[
6x - 4y = 14 \\
-1(3x - 4y = -1) 
\]

\[
6x - 4y = 14 \\
-3x + 4y = -1 \\
3x = 15 \\
X = 5 
\]

\[
6(5) - 4y = 14 \\
30 - 4y = 14 \\
-4y = -16 \\
Y = 4 
\]

(5, 4)

---

**EXPLAIN**

Explain the “process” of elimination.

1. **Multiply one equation so that one variable will cancel when you combine equations.**
2. **Solve for single variable.**
3. **Then plug back in one equation to solve for second variable.**

**Example:**

\[
\begin{align*}
6x + 5y &= 19 \\
2x + 3y &= 5 \\
-3(2x + 3y) &= -15 \\
-6x - 9y &= -15 \\
10y &= 4 \\
y &= -\frac{4}{10} = -\frac{2}{5} \\
x &= \frac{2}{5} \\
(x, y) &= (4, -1) 
\end{align*}
\]