Revision to Tyler Wallace's
"Linear Equations in One Variable:
Solving General Linear Equations in One Variable"

Problem: Solve: $4(2x - 5) + 3 = 5(4x - 1) - 10x$.

1. Let's simplify the left side first. Distribute the 4 to get $4(2x - 5) + 3 = 4(2x) - 4(5) + 3$, which equals $8x - 20 + 3$.
    a. Now we combine like terms, in this case, -20 and 3 to get $8x - 20 + 3 = 8x - 17$. This is our expression on the left side.
    b. So, we have $8x - 17 = 5(4x - 1) - 10x$
2. Now, let's simplify the right side. Distribute 5 to get $5(4x) - 5(1) - 10x$, which equals $20x - 5 - 10x$ *(Note: this is where the video has an error. The video has* $20x - 1 - 10x$*, this means they did not distribute* 5 *correctly).*
    a. Now, again we combine like terms, in this case $20x$ and $-10x$, to get $20x - 5 - 10x = 10x - 5$. This is our expression on the right side.
    b. So, now we have $8x - 17 = 10x - 5$
3. Let's simplify $8x - 17 = 10x - 5$ by getting the variable on one side.
    a. Let's subtract 8x from both sides to get $8x - 8x - 17 = 10x - 8x - 5$, which gives us $-17 = 2x - 5$
4. Now, let's solve by adding 5 to both sides, $-17 + 5 = 2x - 5 + 5$, which gives us $-12 = 2x$
5. We can now solve for x by dividing both sides by 2 to get $-6 = x$

Here is a summary of what we did:

$4(2x - 5) + 3 = 5(4x - 1) - 10x$
$4(2x) - 4(5) + 3 = 5(4x - 1) - 10x$
$8x - 20 + 3 = 5(4x - 1) - 10x$
$8x - 17 = 5(4x) - 5(1) - 10x$
$8x - 17 = 20x - 5 - 10x$
$8x - 17 = 10x - 5$ Subtract $8x$ from both sides
$-17 = 2x - 5$ Now, add 5 to both sides
$-12 = 2x$ Divide both sides by 2
$-6 = x$