The L.S. R.S. Check

To determine if a particular point is the POI of two lines, we can use the L.S. R.S. check.

The L.S. R.S. check can also be used to check if any given point is on a line.

How to Perform the L.S. R.S. Check

To perform the L.S. R.S. Check, all you need to do **<u>is substitute the values of x and y in question into your equation(s) and simplify</u>**.

For example, if you wanted to know if the point (2, 3) is the POI of the lines $y = -2x + 7$ and $y = 3x + 1$, simply substitute x = 2 and y = 3 into the equations and simplify!

Checking $y = -2x + 7$

L.S.	R.S.
y = (**3**) = 3	-2x + 7 = -2(**2**) + 7 = -4 + 7 = 3

☺ L.S. = R.S. ☺

This means that the point (x, y) = (2, 3) is on the line $y = -2x + 7$.

If (2, 3) is on the other line as well, we know that it must be the point where they meet!

Checking $y = 3x + 1$

L.S.	R.S.
y = (**3**) = 3	3x + 1 = 3(**2**) + 1 = 6 + 1 = 7

☹ L.S. ≠ R.S. ☹

This means that the point (x, y) = (2, 3) is NOT on the line $y = 3x + 1$.

Therefore, (2, 3) is NOT the POI of these two lines!

<u>Example</u>

Determine if the point (2, -1) is the point of intersection of $y = -3x + 5$ and $y = 4x - 9$.