Substitution Method 2

When y is not by itself you have to arrange it first before substituting.

ex 1) $2x + y = 8$
       $x + y = 5$

<u>Steps</u>:
1. Rearrange one equation so x or y is by itself.

$$x = -y + 5$$

2. Then substitute into the other equation and solve for x.

$$2(-y + 5) + y = 8$$
$$-2y + 10 + y = 8$$
$$-y = -2$$
$$y = 2$$

3. Take your answer for x or y and sub into either equation to find the coordinate.

$$x + 2 = 5$$
$$x = 3$$

4. Write as a coordinate point together (x, y).

$$(3, 2)$$

ex 2)   5x - y = 8
        2x + 2y = 8
        $5x - 8 = y$

        $2x + 2(5x - 8) = 8$
        $2x + 10x - 16 = 8$
        $\dfrac{12x}{12} = \dfrac{24}{12}$
                $x = 2$

$5(2) - y = 8$
$10 - y = 8$
$10 - 8 = y$
      $y = 2$

$(2, 2)$