Example: Solve the system below using the method of addition.

Eq1.: $5x = -4y - 7$
Eq2.: $6x - 3y = 15$

1) Transform Eq1. into standard form by move $-4y$ to the left.

$5x + 4y = -7$ Rewrite Eq1.
$6x - 3y = 15$ Copy Eq2.

2) Now we can change the equations further by multiplying.

$3(5x + 4y) = (3)(-7)$ Multiply Eq1. by the number 3.

$15x + 12y = -21$ New Eq1.

$4(6x - 3y) = 4(15)$ Multiply Eq2. by the number 4.

$24x - 12y = 60$ New Eq2.

3) Now add New Eq1. and New New Eq2.

$15x + 12y + 24x - 12y = -21 + 60$ $12y + (-12y) = 0$

$$39x = 39$$

$$x = 1$$

4) Now that we know that $x=1$, we have to find the correspoding value of y.

$5(1) = -4y - 7$ Replace x with 1 in Eq1.

$5 = -4y - 7$ 5 times 1 is 5 on the left

$12 = -4y$ Add 7 to both sides to get 12 on the left

$-3 = y$ Divide both sides by -4 to get -3 as the value of y

5) So the point that solves the system is $(1, -3)$.