Systems of Equations

Class	Algebra 2

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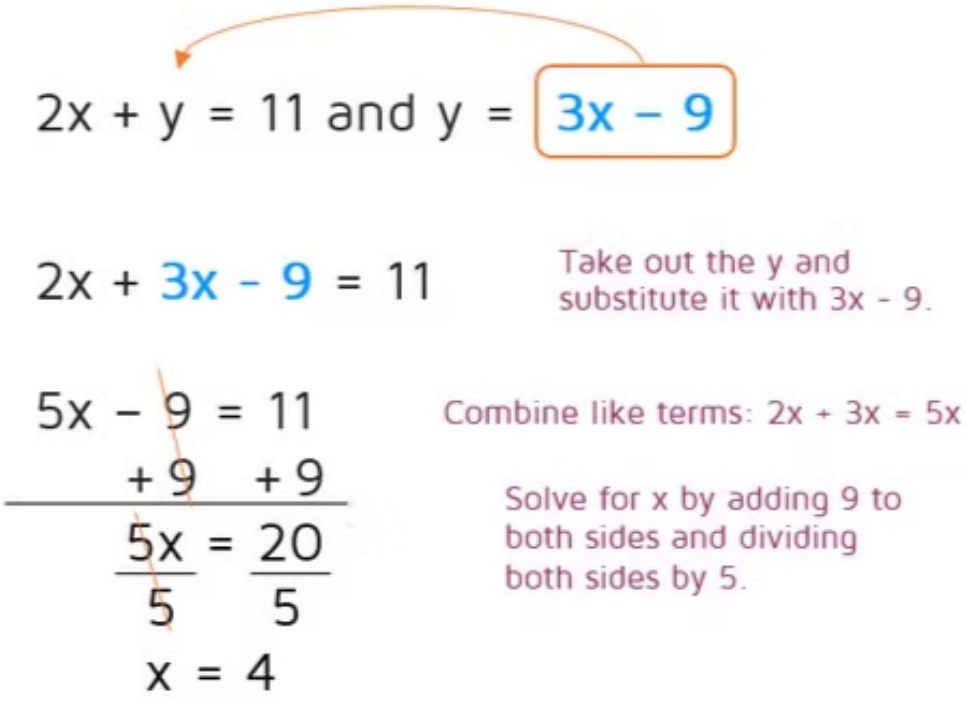
Two Possible Ways to Solve: Elimination & Substitution

Substitution



$x = 4$

Plug 4 in for x into one of the original equations.

$2x + y = 11$ and $y = 3(4) - 9$

$y = 12 - 9 = 3$

Simplify to find y.

Solution: $(4,3)$

Write answer as an ordered pair.

Elimination

$y = 2x - 7$ and $y = -4x + 11$

$$2x - 7 = -4x + 11$$
$$+4x \qquad +4x$$
$$6x - 7 = 11$$
$$+7 \qquad +7$$
$$\frac{6x}{6} = \frac{18}{6}$$
$$x = 3$$

Take out the y and substitute in 2x - 7.

Get all the variables on one side by adding 4x to both sides.

Solve for x by adding 7 to both sides and dividing both sides by 6.

$x = 3$

$y = 2(3) - 7$ and $y = -4x + 11$ Go back to an original equation and plug in 3 for x.

$y = 6 - 7 = -1$ Simplify to find y.

Solution: $(3,-1)$ Write answer as an ordered pair.