Topic: Solving Systems by elimination (day 2)

Solve the system by elimination

ex

$2x - 3y = -7$

$3 \cdot (3x + y = -5)$

2 conditions
① allignment
② opposites

1) Eliminate
2) solve
3) substitute
4) solve
5) solution (x, y)

* need to multiply by a constant in order to create opposites

① + $2x - 3y = -7$
$9x + 3y = -15$

② $\frac{11x}{11} = \frac{-22}{11}$

$x = -2$

③ $3x + y = -5$

$3(-2) + y = -5$

④ $-6 + y = -5$

$+6 \quad +6$

$y = 1$

⑤ $(-2, 1)$

ex

$3 \cdot (4x + 5y = 35)$

$4 \cdot (-3x + 2y = -9)$

2 conditions
① allignment
② opposites

1) Eliminate
2) solve
3) substitute
4) solve
5) solution (x, y)

* sometimes we need to multiply both equations by a constant

$12x + 15y = 105$

+ $-12x + 8y = -36$

$\frac{23y}{23} = \frac{69}{23}$

$y = 3$

$4x + 5y = 35$

$4x + 5(3) = 35$

$4x + 15 = 35$

$-15 \quad -15$

$\frac{4x}{4} = \frac{20}{4}$

$x = 5$

$(5, 3)$