AA00

9/2

How do I solve Systems of Equations?

Ex 1: Graphing

$y = mx + b$

m ↑ slope

b ↑ y-intercept $(0, b)$

$y = \frac{1}{3}x - 5$

$y = -2x + 9$

$(6, -3)$

1.) Graph

2.) Point of Intersection

3.) (x, y)

Ex 2: EVM (Equal Values Method) Substitution

$y = mx + b$

$y = 12x + 4$

$y = -x - 22$

$12x + 4 = -x - 22$

$+x \quad +x$

$13x + 4 = -22$

$-4 \quad -4$

$\frac{13x}{13} = \frac{-26}{13}$

$x = -2$

1.) Set equal to each other

2.) Solve for x

3.) Solve for y

$y = 12(-2) + 4$

$y = -20$

$(-2, -20)$

Ex 3: Substitution

One equation should be solved for a variable.

$-3x-8y=29$

$x=(-3y+4)$

$-3(-3y+4)-8y=29$

$9y-12-8y=29$

$1y-12=29$

$+12 \quad +12$

$y=41$

$x=-3(41)+4$

$x=-119$

$(-119, 41)$

1. Substitute

2. Solve

3. Solve for other variable