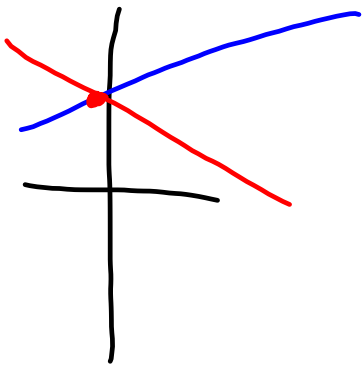
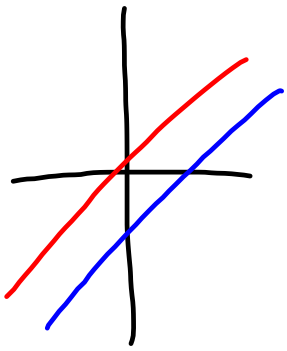
Solving Systems of Linear Equations

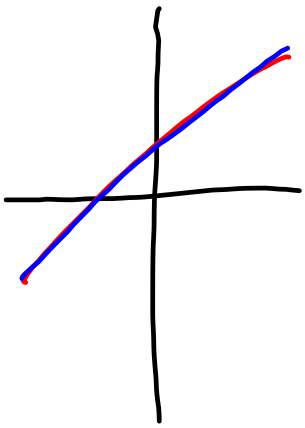
Three Different Types of Solutions

an ordered pair that satisfies both equations

One Solution	No Solutions	Many Solutions
(x, y)	$0 \neq -3$	$0 = 0$







Substitution Method

1.) $-3x+2y=-3$

$2x-y=3$

$+y \quad +y$

$2x=3+y$

$2x-3=y$

① Get one variable in one equation alone

② Substitute in to the other equation

$-3x+2(\quad)=-3$

$-3x+2(2x-3)=-3$

$-3x+4x-6=-3$

$x-6=-3$

$x=3$

③ Plug in to any original equation

$2(3)-y=3$

$6-y=3$

$-y=-3$

$y=3$

$(3,3)$

Elimination Method

2.)

$-2(2x+4y=-1)$

$4x-3y=-2$

$+\ -4x-8y=2$

$-11y=0$

$\frac{-11y}{-11}=\frac{0}{-11}$

① Pick one variable and get the same # but opposite signs

② Add

$y=0$

③ Plug it in

$2x+4(0)=-1$

$2x=-1$

$x=-1/2$

$(-1/2,0)$

Classwork

pg. 525: 3-9 odd, 19-25 odd, 60, 61, 64, 68