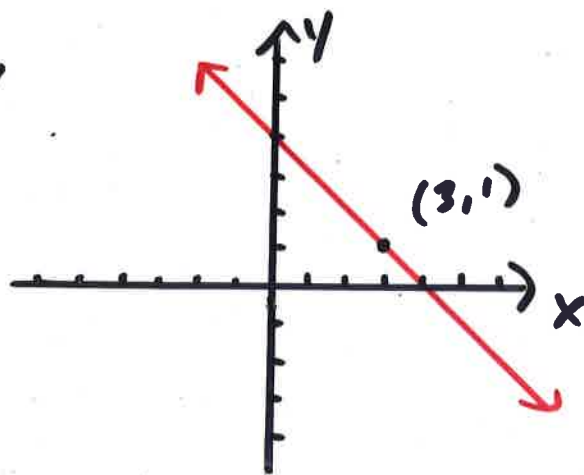


3.1 GRAPHING SYSTEMS OF EQUATIONS

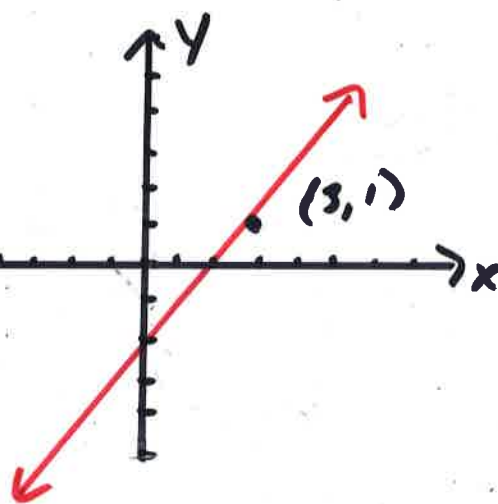
CONSIDER $x + y = 4$

SOME SOLUTIONS:
(2, 2) (1, 3) (0, 4)
(5, -1) (3, 1) (-4, 8)



NOW CONSIDER $x - y = 2$

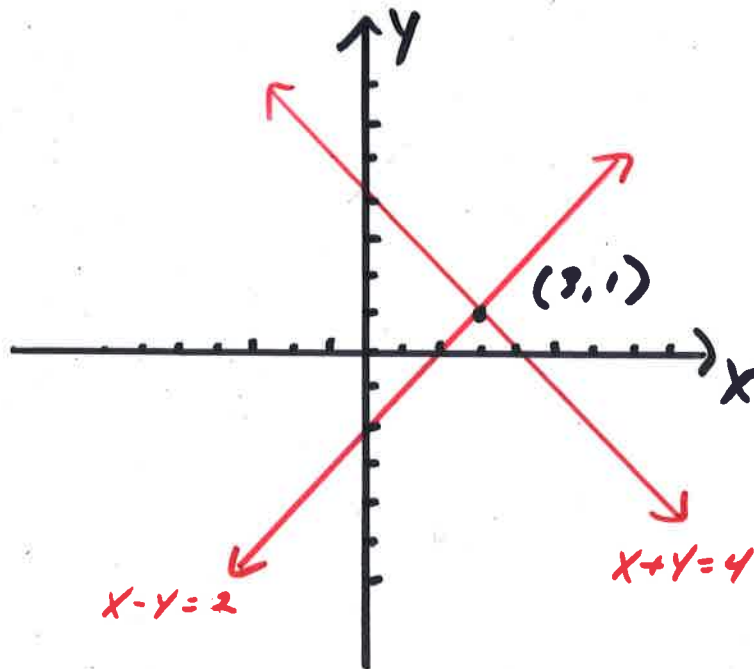
SOME SOLUTIONS:
(2, 0) (4, 2) (3, 1)
(-1, -3) (5, 3)



NOW, CONSIDER THEM TOGETHER.

$$\begin{aligned}x + y &= 4 \\x - y &= 2\end{aligned}$$

NOTE THAT (3, 1)
IS THE ONLY
SOLUTION TO
THE SYSTEM.



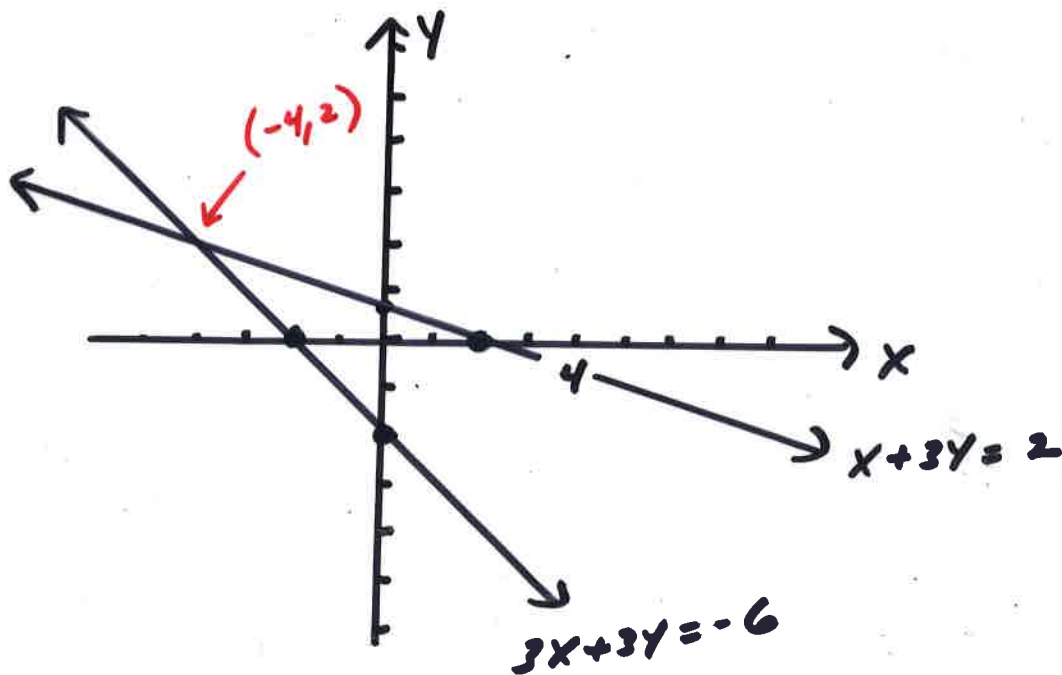
Ex: SOLVE $X+3Y=2$
 $3X+3Y=-6$

$X+3Y=2$

$X_{INT} = 2$
 $Y_{INT} = \frac{2}{3}$

$3X+3Y=-6$

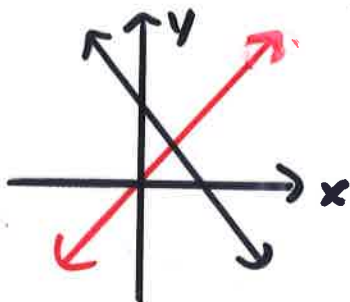
$X_{INT} = -2$
 $Y_{INT} = -2$



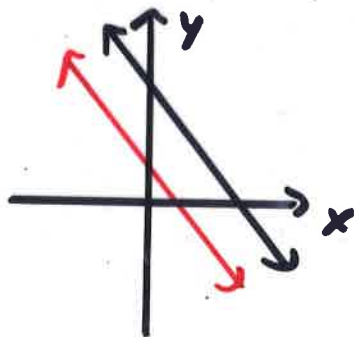
$(-4, 2)$ IS THE SOLUTION.

* BE SURE TO CHECK INTO BOTH ORIGINAL EQUATIONS.

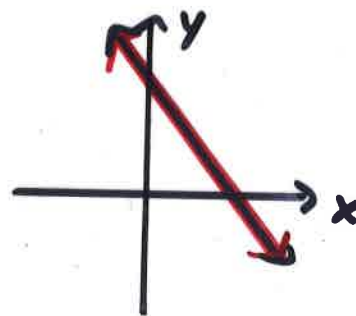
POSSIBILITIES



1 SOLUTION



NO SOLUTION



INFINITELY MANY SOLUTIONS

INDEPENDENT

H.W.: 1-9, 28, 29, 34

INCONSISTENT

DEPENDENT