TH-A2 Algebra 2 Week 12

$$\{2x - 3 = 5\}$$
$$+3 \quad +3$$

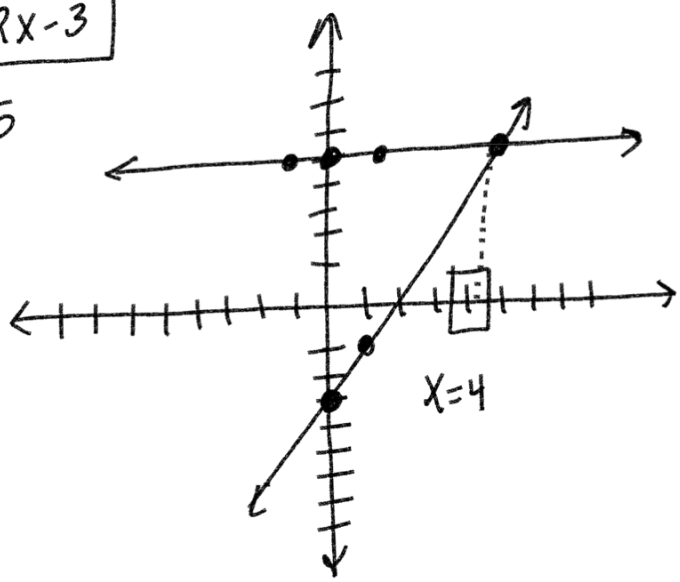
$$\frac{2x}{2} = \frac{8}{2}$$

$$x = 4$$

slope, y-int

$$y = 2x - 3$$

$$y = 5$$



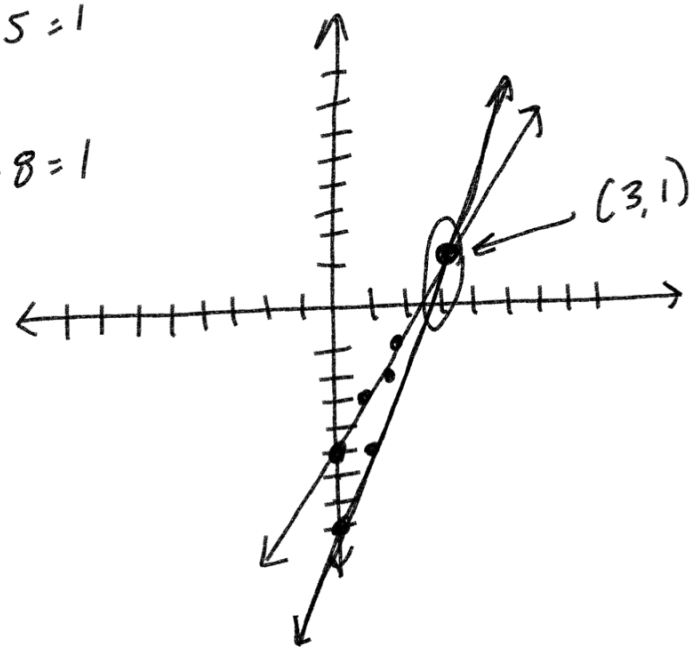
$$2x - 5 = 3x - 8$$

$y = 2x - 5$ $\quad 2(3) - 5 = 6 - 5 = 1$

$y = 3x - 8$ $\quad 3(3) - 8 = 9 - 8 = 1$

$$\{2x - 5 = 3x - 8$$
$$-2x \quad -2x$$
$$-5 = x - 8$$
$$+8 \quad +8$$
$$3 = x$$

(3, 1)

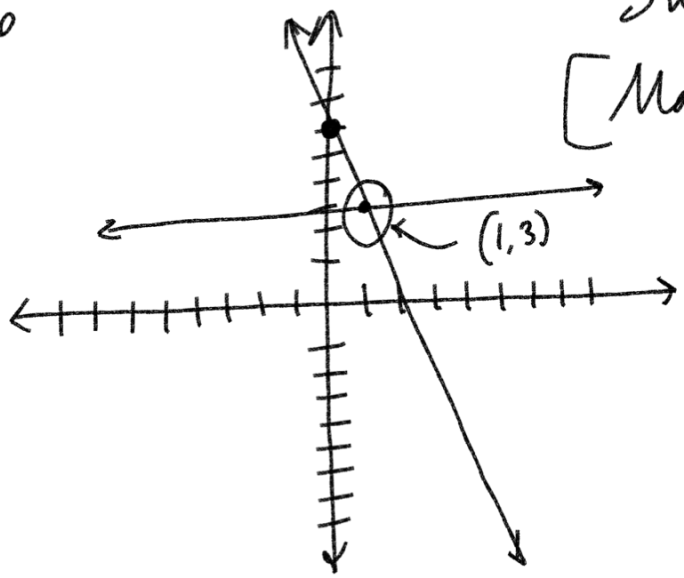


Systems of Equations

Solve by...
Graphing
Elimination
Substitution
[Matrix]

1. $3x + y = 6$

2. $y = 3$



$3x + y = 6$
$-3x \quad -3x$
$y = -3x + 6$

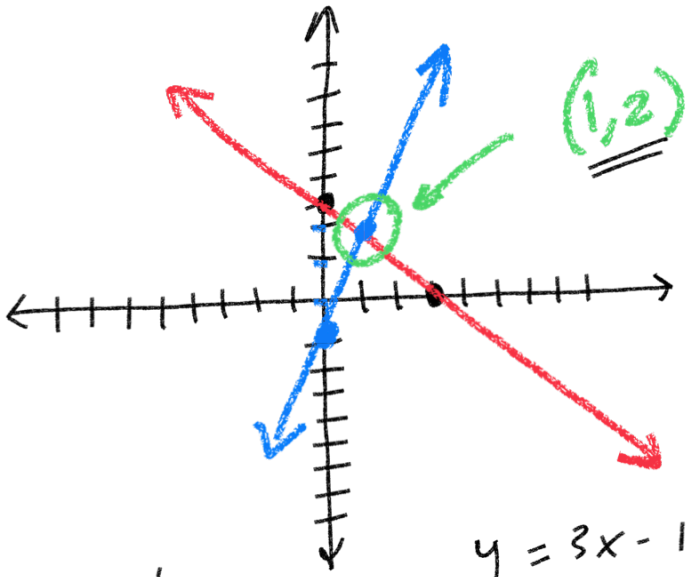
$3x + y = 6$
$y = 3$

$3(1) + y = 6$
$3 + y = 6$
$-3 \quad -3$
$y = 3$

$x = 1$

$3x + 3 = 6$
$-3 \quad -3$
$\frac{3x}{3} = \frac{3}{3}$

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



$x + (y) = 3$
$y = (3x - 1)$

$x + 3x - 1 = 3$
$+1 \quad +1$
$\frac{4x}{4} = \frac{4}{4}$
$x = 1$ (1,2)

$y = 3x - 1$
$= 3(1) - 1$
$3 - 1$
(2)

Substitution Method

$7x + 4y = 10$

$y = x - 14$

$7x + 4(x - 14) = 10$

$7x + 4x - 56 = 10$

$+56 \quad +56$

$7x + 4x = 66$

$\frac{11x}{11} = \frac{66}{11}$

$x = 6$

$y = x - 14$

$y = 6 - 14$

$y = -8$

$(6, -8)$

$-x + 7y = -17$

$y = 6x - 20$

$-x + 7(6x - 20) = -17$

$-x + 42x - 140 = -17$

$41x - 140 = -17$

$+140 \quad +140$

$\frac{41x}{41} = \frac{123}{41}$

$x = 3$

$y = 6x - 20$

$y = 6(3) - 20$

$18 - 20 = -2$

Intersect at $(3, -2)$

Elimination

$-4x + 5y = 13$

$7x + y = -13$

$-4x + 5y = 13$

$-5(7x + y = -13)$

these are now equal, but opposite — can be eliminated

$-4x + 5y = 13$

$+ \; -35x - 5y = 65$

$-39x = 78$

$\frac{-39x}{-39} = \frac{78}{-39}$

$x = -2$

$-4x + 5y = 13$

$-4(-2) + 5y = 13$

$8 + 5y = 13$

$-8 \quad -8$

$\frac{5y}{5} = \frac{5}{5}$

$y = 1$

Intersect @ $(-2, 1)$

$-4(-3x + y = 7)$

$-4x + 4y = -12$

$12x - 4y = -28$

$+ \; -4x + 4y = -12$

$\frac{8x}{8} = \frac{-40}{8}$

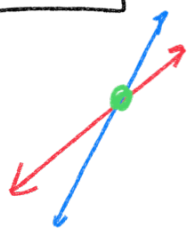
$x = -5$

$-3(-5) + y = 7$

$15 + y = 7$

$-15 \quad -15$

$y = -8$



Intersect at

$(-5, -8)$

$$\begin{array}{r} -7x + 2y = 15 \\ 6x + 4y = 24 \end{array}$$

$-2(-7x + 2y = 15)$

$14x - 4y = -30$

$+ \quad 6x + 4y = 24$

$\frac{20x}{20} = \frac{-6}{20}$

$x = \frac{-3}{10}$

$6x + 4y = 24$

$6\left(\frac{-3}{10}\right) + 4y = 24$

$\frac{-18}{10} + 4y = 24$

$+\frac{18}{10} \quad +\frac{18}{10}$

$\frac{1}{4}(4y) = \left(\frac{258}{10}\right)\frac{1}{4}$

$y = \frac{258}{40} = \frac{129}{20}$

$\left(\frac{-3}{10}, \frac{129}{20}\right)$

$(-0.3, 6.45)$

HW

Ch 2 Test Due Nov 26th

Quiz 10 due around

Ch 3-1 evens
3-2 evens
Supplemental WS
Online HW 12 (sat)
Quiz 12 (sat) due December 4th