W-A2 Algebra 2 Week 17 1/17

LCM = 15

5: 5, 10, 15, 20, 25, 30, 35, . . .

15: 15, 30, 45, 60, 75, ...

$$3(-5x + 4y = 2)$$
$$15x + 9y = 57$$

$$-15x + 12y = 6$$
$$15x + 9y = 57$$

$$\frac{21y}{21} = \frac{63}{21}$$

$$\boxed{y = 3}$$

$$-5x + 4y = 2$$
$$-5x + 4(3) = 2$$
$$-5x + 12 = 2$$
$$-12 \quad -12$$
$$\frac{-5x}{-5} = \frac{-10}{-5}$$

$$\boxed{x = 2}$$

1.)

$$x + 2y = 6$$
$$-(x - 8y = -34)$$

$$x + 2y = 6$$
$$+ \quad -x + 8y = 34$$

$$\frac{10y}{10} = \frac{40}{10}$$

$$\boxed{y = 4}$$

$$x + 2y = 6$$
$$x + 2(4) = 6$$
$$x + 8 = 6$$
$$-8 \quad -8$$

$$\boxed{x = -2}$$

$(-2, 4)$

2.)

$$6x - 4y = 22$$
$$-2(9x - 2y = 29)$$

$$6x - \cancel{4y} = 22$$
$$+\ -18x + \cancel{4y} = -58$$

$$\frac{-12x}{-12} = \frac{-36}{-12}$$

$$\boxed{x = 3}$$

$$6x - 4y = 22$$
$$6(3) - 4y = 22$$
$$18 - 4y = 22$$
$$-18 \qquad -18$$
$$\frac{-4y}{-4} = \frac{4}{-4}$$

$$\boxed{y = -1}$$

$(3, -1)$

3.)

$$3(4x - 8y = 44)$$
$$-4(3x + 5y = -11)$$

$$\cancel{12x} - 24y = 132$$
$$+\ -\cancel{12x} - 20y = 44$$

$$\frac{-44y}{-44} = \frac{176}{-44}$$

$$\boxed{y = -4}$$

$$3x + 5y = -11$$
$$3x + 5(-4) = -11$$
$$3x - 20 = -11$$
$$+20 \qquad +20$$

$$\frac{3x}{3} = \frac{9}{3}$$

$$\boxed{x = 3}$$

$$-* 3x = -12x$$

$$5(4x - 8y = 44)$$
$$8(3x + 5y = -11)$$

$$20x - \cancel{40y} = 220$$
$$+\ 24x + \cancel{40y} = -88$$

$$\frac{44x}{44} = \frac{132}{44}$$

$$\boxed{y = -4}$$

$$x = 3$$

Systems of Inequalities

$y < 2x + 3$ y-int

slope $\frac{\text{up } 2}{\text{right } 1}$

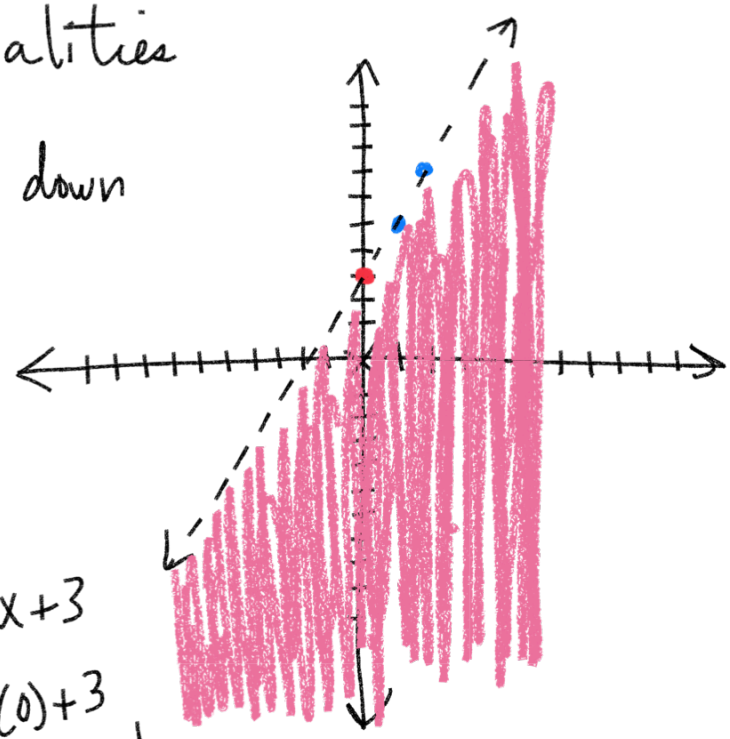
< down

> <

- - - - - - - - - -

≥ ≤

{(0,0)}



$y < 2x + 3$

$0 < 2(0) + 3$

$0 < 3$ true!

$4x + 8y > 24$ > up

$\cancel{4x} + \frac{8y}{8} > \frac{24}{8}$ y-int (0,3)

x=0

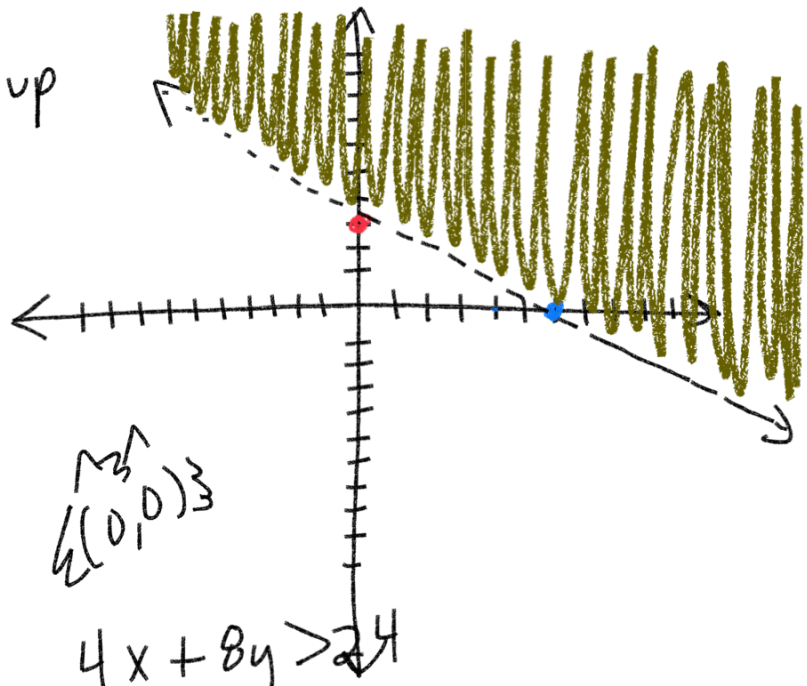
y=3

$\frac{4x}{4} + \cancel{8y} > \frac{24}{4}$ x-int (6,0)

y=0

x=6

{(0,0)}



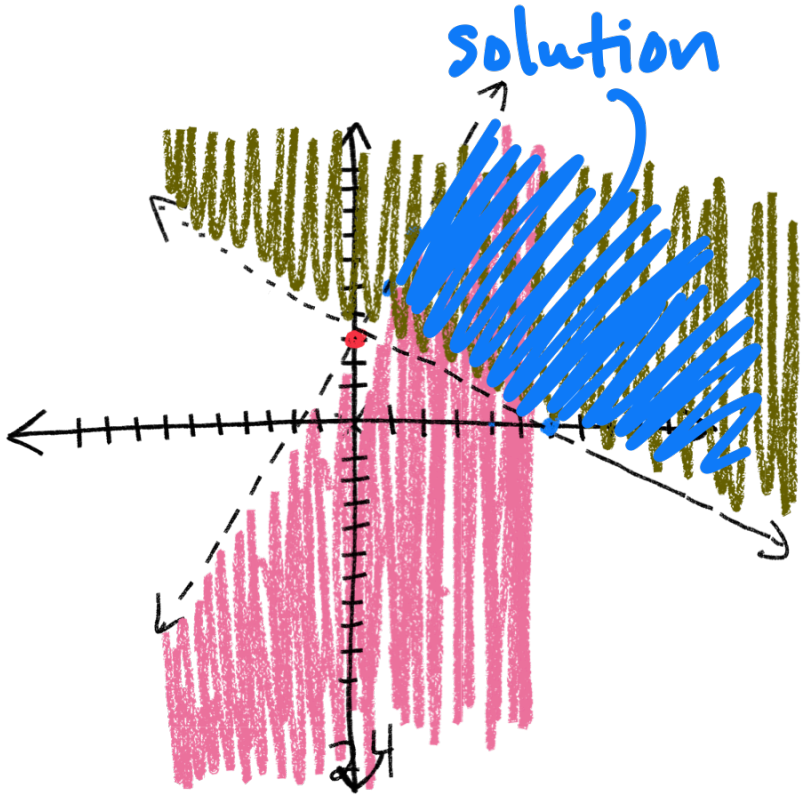
$4x + 8y > 24$

$4(0) + 8(0) > 24$

$0 > 24$ false

$y < 2x + 3$

$4x + 8y > 24$



$\boxed{y > \frac{1}{2}x - 5}$

$y < -3x + 2$

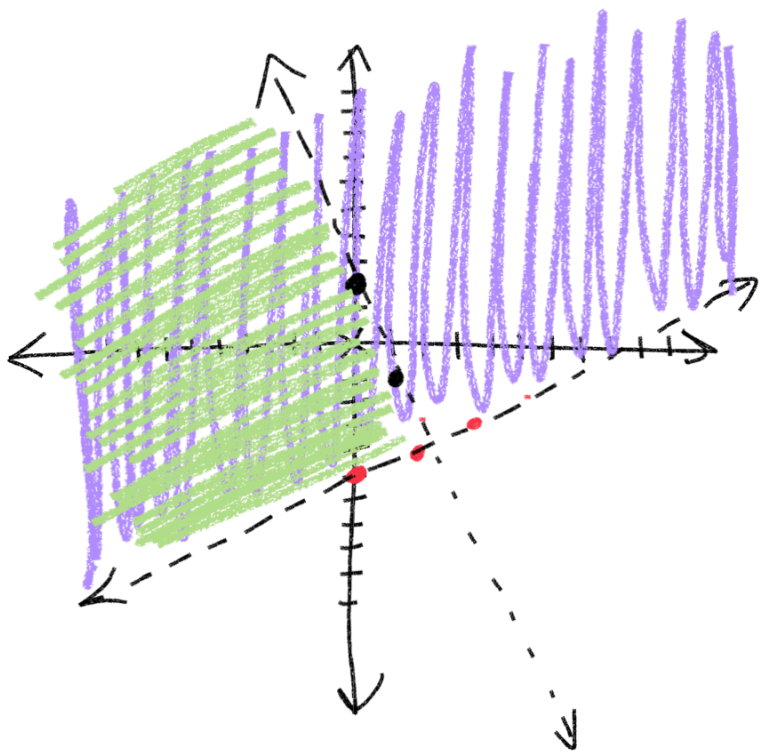
$\{(0,0)\}$

$0 > \frac{1}{2}(0) - 5$

$0 > -5$ true!

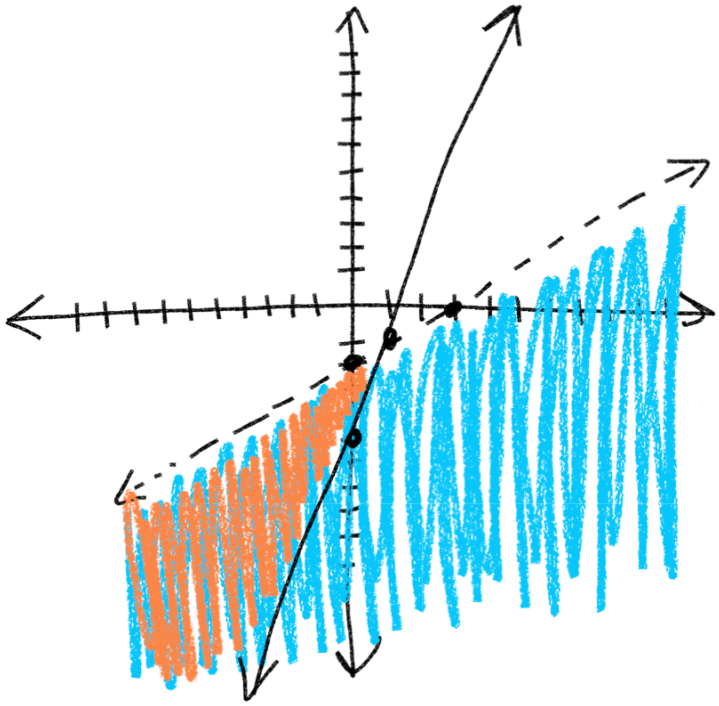
$0 < -3(0) + 2$

$0 < 2$



$$y < \frac{2}{3}x - 2$$

$$y \geq 4x - 5$$



$\{(0,0)\}$

$0 < \frac{2}{3}(0) - 2$

$0 < -2$ false

$0 \geq 4(0) - 5$

$0 \geq -5$ true!