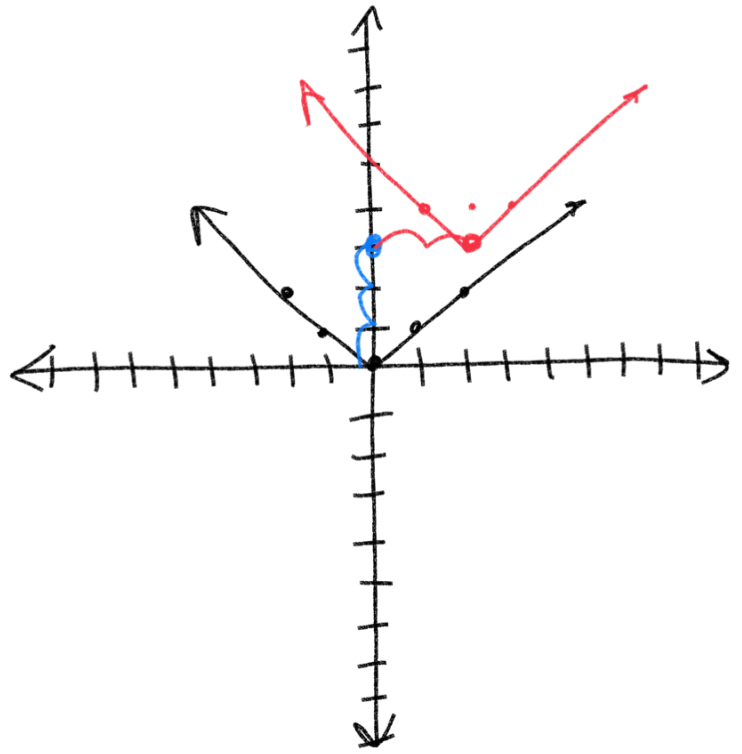


S-AZ Algebra 2 Session 11 7/13

$$y = |x - 2| + 3$$

right 2 up 3



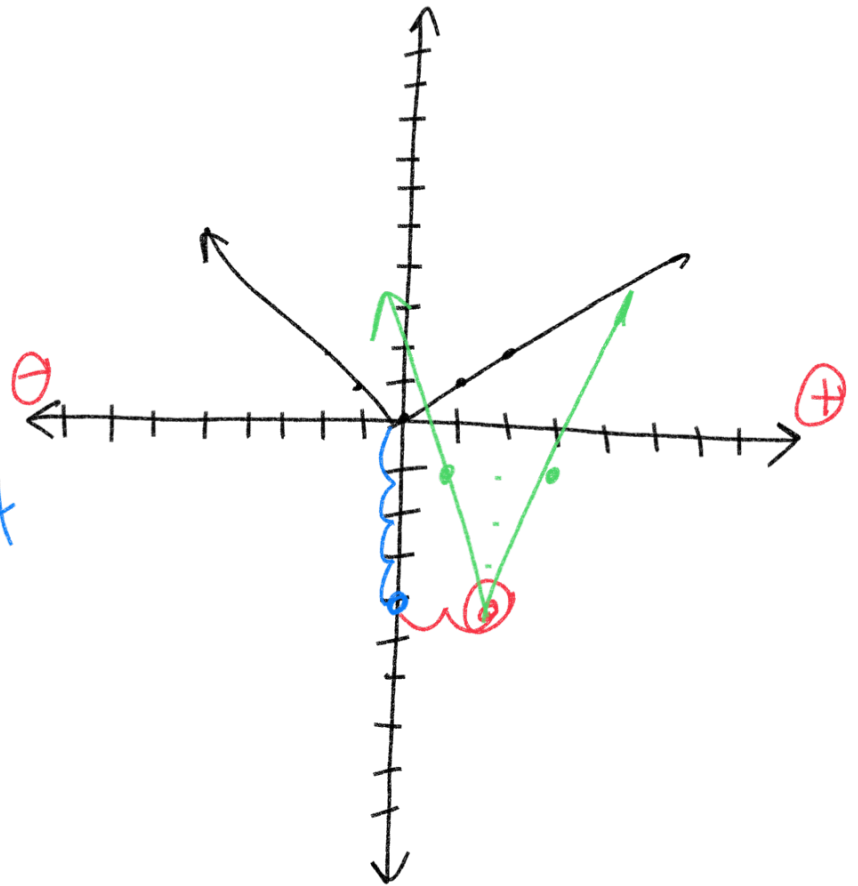
$$y = \left| \frac{3x - 6}{3} \right| - 4$$

$$y = \left| 3(x - 2) \right| - 4$$

slope $\frac{3}{1}$ right 2 down 4

opposite

up 3
over



$$y = \left| \frac{2x + 8}{2} \right| + 1$$

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

slope
up 2
1 over

Left
4

up 1

$$y = - \left| \frac{4x - 12}{4} \right| + 6$$

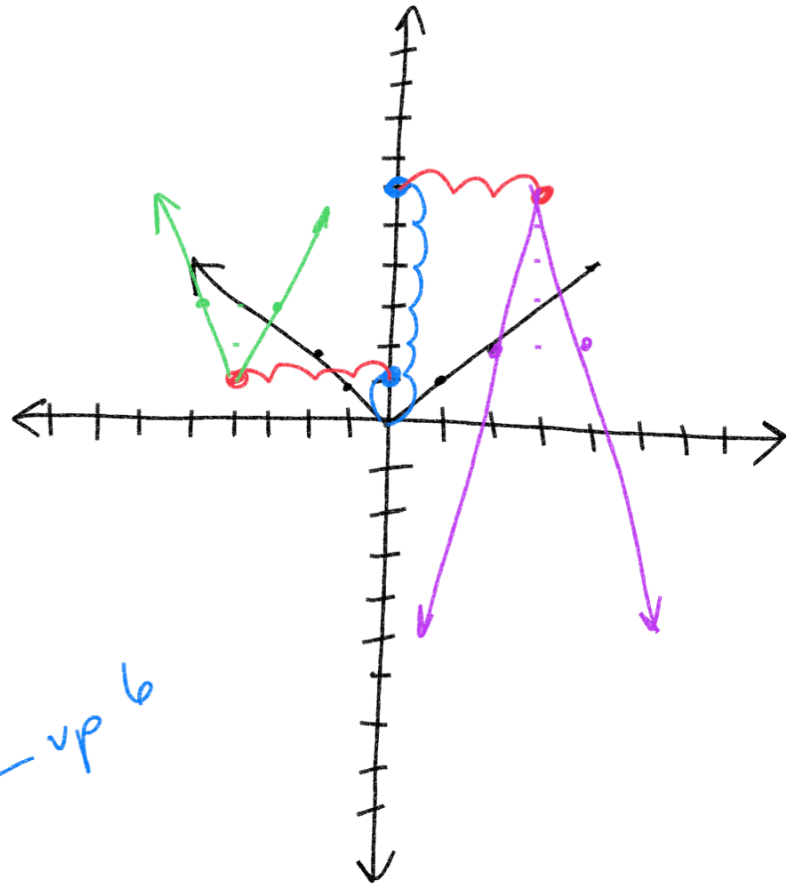
$$- |4(x - 3)| + 6$$

flip
↓

slope
4 down
1 over

right
3

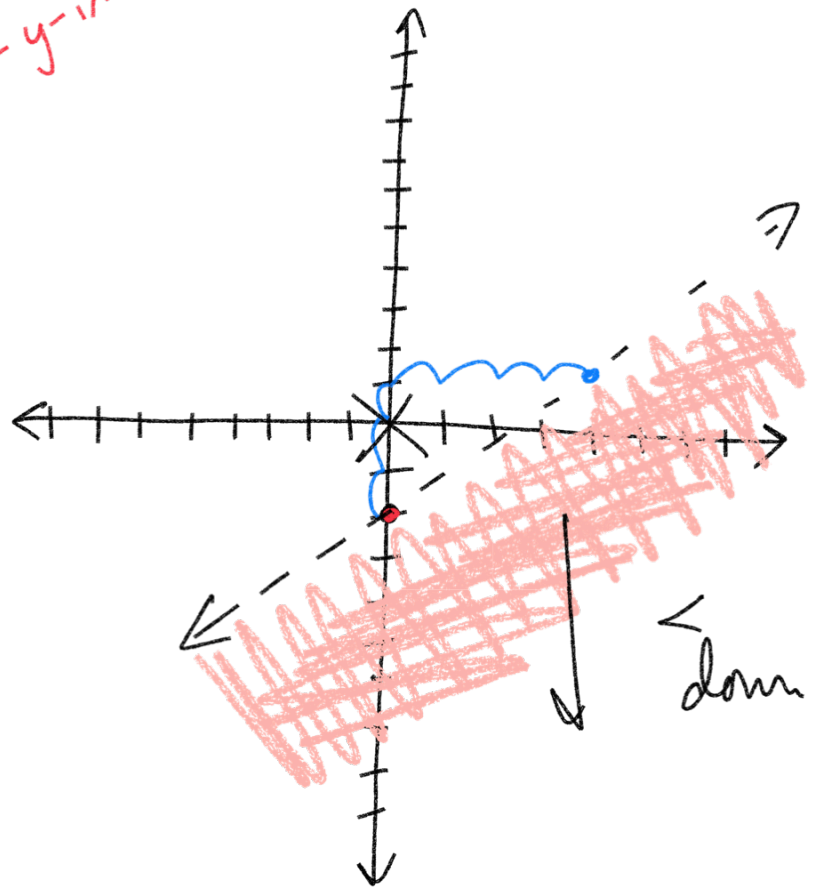
up 6



$$y < \frac{3}{4}x - 2$$

2nd use slope to find next point

first plot y-int



$\{ (0,0) \}$

$$y < \frac{4}{3}x - 2$$

$$0 < \frac{4}{3}(0) - 2$$

$$0 < -2 \text{ false}$$

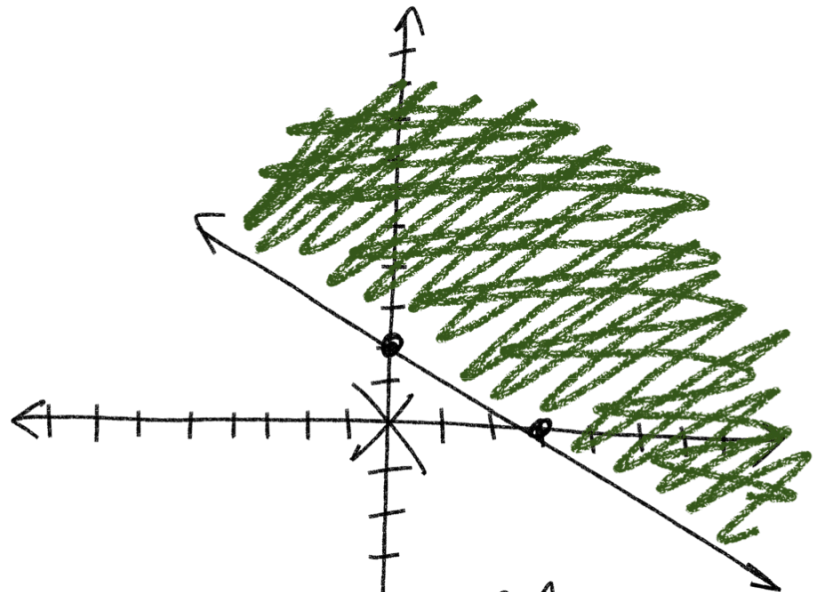
$$2x + 3y \geq 6$$

Graph intercepts

$$\frac{2x}{2} + \frac{3y}{3} = \frac{6}{3} \quad \frac{2x}{2} + \frac{3y}{3} = \frac{6}{3}$$

$$y = 2$$

$$x = 3$$



$$\begin{array}{r} 2x + 3y \geq 6 \\ -2x \quad \quad -2x \\ \hline 3y \geq -2x + 6 \\ \frac{3y}{3} \geq \frac{-2x + 6}{3} \end{array}$$

$$y \geq -\frac{2}{3}x + 2$$

$\{ (0,0) \}$

$$\begin{array}{l} 2x + 3y \geq 6 \\ 2(0) + 3(0) \geq 6 \\ \text{false } 0 \geq 6 \end{array}$$

Systems of Equations

$$y = \frac{1}{2}x - 3$$

$$y = \frac{5}{2}x + 1$$

$$y = \frac{1}{2}x - 3$$

$$f(x) = \frac{1}{2}x - 3$$

$$\begin{aligned} f(-2) &= \frac{1}{2}(-2) - 3 \\ &= -1 - 3 \\ &= -4 \end{aligned}$$

$$x = -2$$

$$y = -4$$

$$(-2, -4)$$

$$y = \frac{5}{2}x + 1$$

$$f(x) = \frac{5}{2}x + 1$$

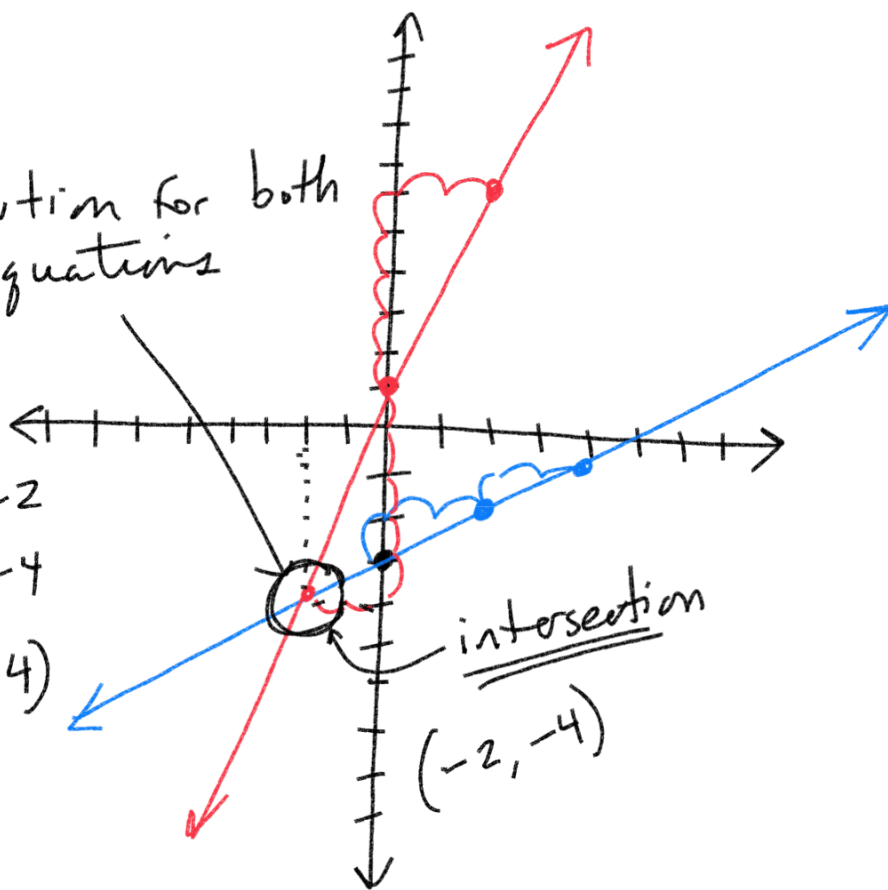
$$\begin{aligned} f(-2) &= \frac{5}{2}(-2) + 1 \\ &= -5 + 1 \\ &= -4 \end{aligned}$$

$$x = -2$$

$$y = -4$$

$$(-2, -4)$$

Solution for both equations



$$y = 4x + 3$$

$$y = 4x - 1$$

parallel lines have the same slope

$$4x + 3 = 4x - 1$$

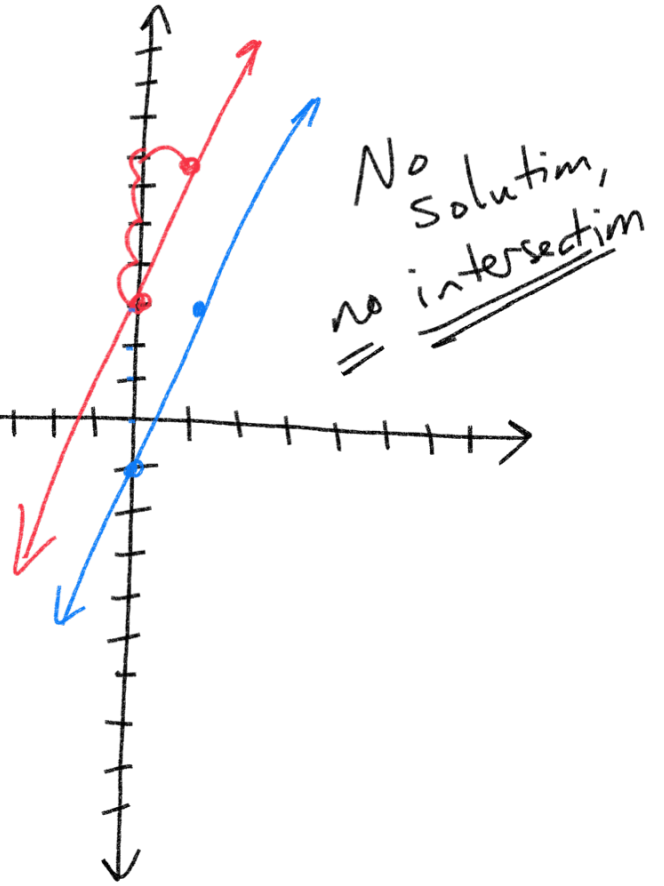
$$-3 \quad -3$$

$$4x = 4x - 4$$

$$-4x \quad -4x$$

$$0 = -4$$

No solution



$$y = -x - 3$$

slope = -1

$$y = -5x + 1$$

$$-x - 3 = -5x + 1$$

$$+x \quad +x$$

$$-3 = -4x + 1$$

$$-1 \quad -1$$

$$-4 = -4x$$

$$\frac{-4}{-4} \quad \frac{-4}{-4}$$

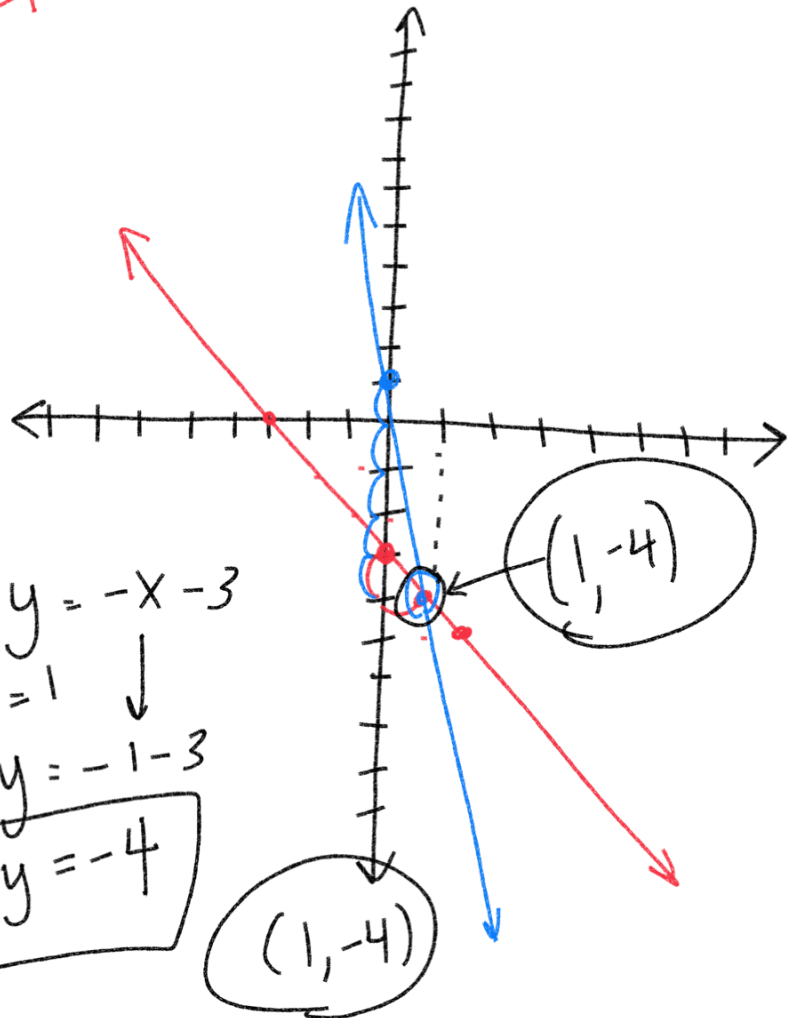
$$1 = x$$

$$y = -x - 3$$

$$x = 1 \quad \downarrow$$

$$y = -1 - 3$$

$$y = -4$$



Algebra 2 Chapter 2 Pre-Test

1.) (8 pts total, 4 pts each) For the following function, determine $f(3)$ and $f(-2)$.

a) $f(x) = x^2 - 4x + 5$

b) $f(x) = \frac{5x-6}{2x}$

2.) (8 pts total, 4 pts each) Suppose $f(x) = 3x - 5$ and $g(x) = x^2 + 6$

a) Find $\frac{g(3)}{f(2)}$

$$\frac{(3)^2 + 6}{3(2) - 5} = \frac{9 + 6}{6 - 5} = \frac{15}{1} = \boxed{15}$$

For what value(s) of x would $\frac{g(x)}{f(x)}$ not be a function, if any.

Denominator cannot equal \emptyset

$$f(x) = 3x - 5$$

$$3x - 5 \neq 0$$

$$+5 \quad +5$$

$$\boxed{x \neq \frac{5}{3}}$$

$$\frac{3x}{3} \neq \frac{5}{3}$$

b) Find $f(-1) \cdot g(0)$

For what value(s) of x would $f(x) \cdot g(x)$ not be a function, if any.

$$\boxed{(3x-5)(x^2+6)}$$

No denominator,
all x 's are function