

T-A2 Algebra 2 Week 15 1/3

Buy Car

Uber

$$\$400 + 0.20x$$

$$\$3x$$

$$\begin{array}{r} \$400 + 0.20x = \$3x \\ -0.20x \quad -0.20x \end{array}$$

$$\frac{\$400}{\$2.80} = \frac{\$2.80x}{\$2.80}$$

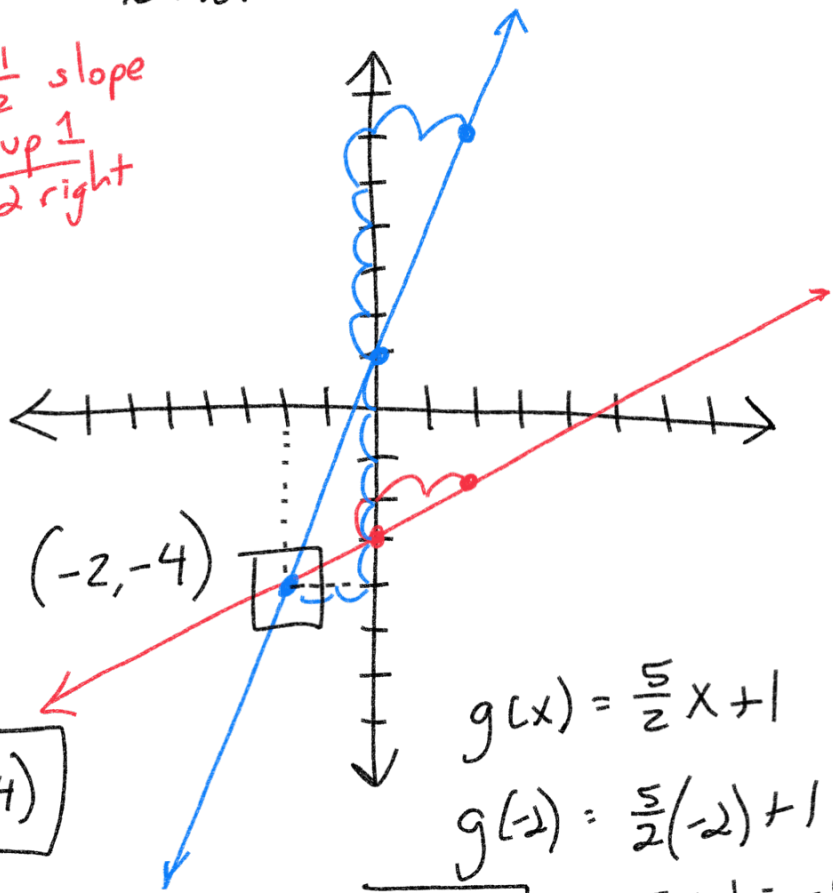
$$x = \frac{400}{2.8} = 142.8 \approx 143 \text{ miles}$$

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

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

$$y = \frac{5}{2}x + 1 \leftarrow y\text{-int}$$

slope up 5
2 right



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

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

$$-1 - 3 = -4$$

$$(-2, -4)$$

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

$$g(-2) = \frac{5}{2}(-2) + 1$$

$$-5 + 1 = -4$$

$$(-2, -4)$$

$$\left\{ \begin{array}{l} \frac{1}{2}x - 3 = \frac{5}{2}x + 1 \\ -\frac{1}{2}x \quad -\frac{1}{2}x \end{array} \right\}$$

$$-3 = 2x + 1$$

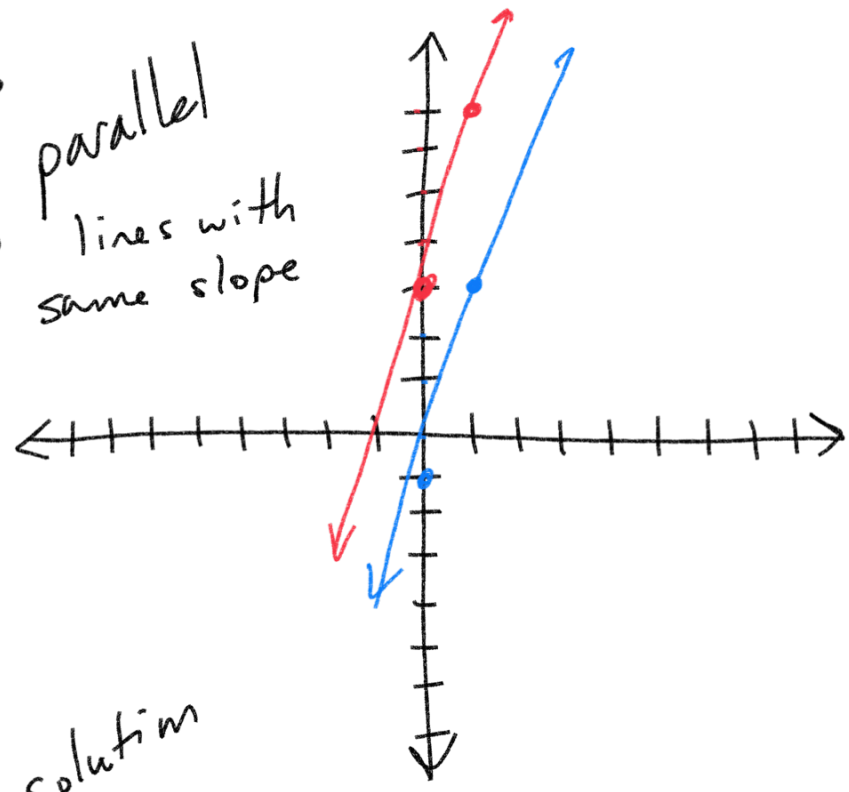
$$-1 \quad -1$$

$$-\frac{4}{2} = \frac{2x}{2} \quad (x = -2)$$

$$y = 4x + 3$$

$$y = 4x - 1$$

} parallel
lines with
same slope



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

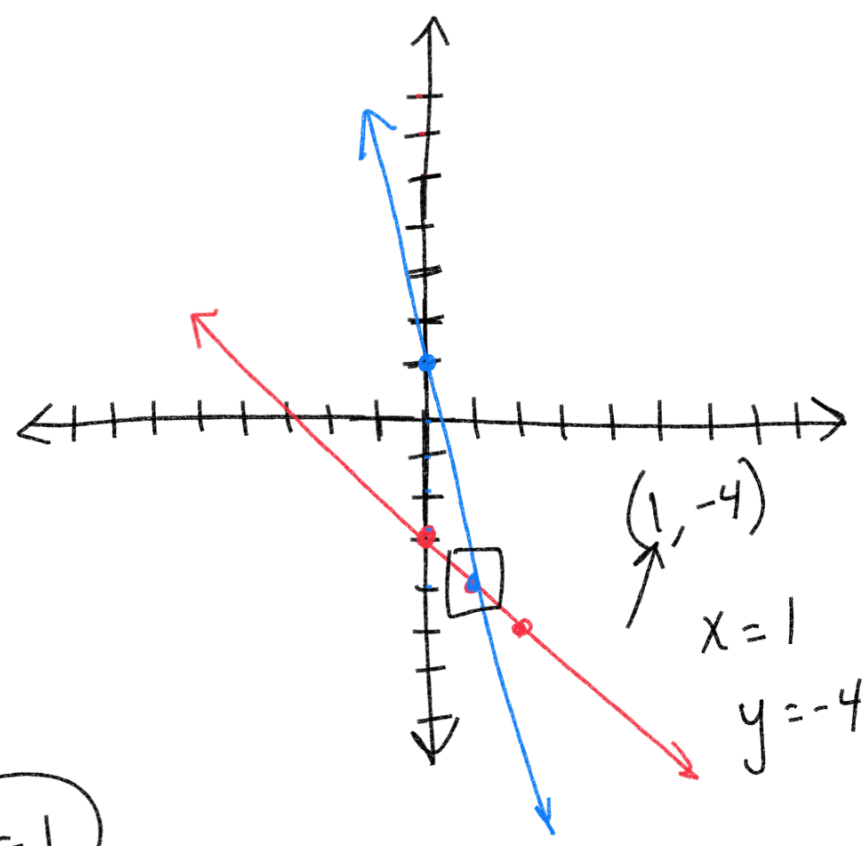
$$4x = 4x - 4$$

$$-4x - 4x$$

$0 = -4$ No solution

$$y = -x - 3$$

$$y = -5x + 1$$



$$\begin{cases} -x - 3 = -5x + 1 \\ +x \quad +x \end{cases}$$

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

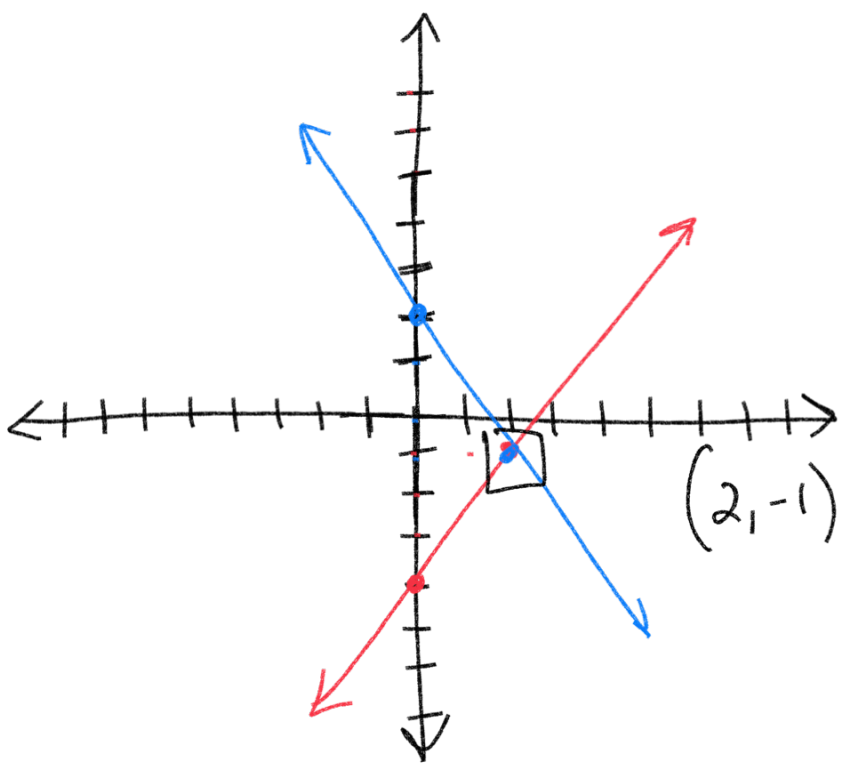
$$-4 = -4x$$

$x = 1$

$(1, -4)$
 $x = 1$
 $y = -4$

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

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



$$x = 2$$

$$y = -1$$

$$x + y = -2$$

$$-6x - 7y = 15$$

$$-6(-y - 2) - 7y = 15$$

$$\underline{6y} + 12 - \underline{7y} = 15$$

$$-y + 12 = 15$$

$$\quad -12 \quad -12$$

$$-y = 3$$

$$\underline{-1} \quad \underline{-1}$$

$$y = -3$$

Substitution

$$x + y = -2$$

$$-y \quad -y$$

$$x = -y - 2$$

$$x + y = -2$$

$$x - 3 = -2$$

$$\quad +3 \quad +3$$

$$x = 1$$

(x, y)

(1, -3)

