

3.2.1

HWK

3-74)

a)  $3x + 7 = -x - 1$

$$\begin{array}{r} +x \qquad +x \\ \hline 4x + 7 = -1 \end{array}$$

$$4x + 7 = -1$$

$$\begin{array}{r} -7 \quad -7 \\ \hline 4x = -8 \end{array}$$

$$4x = -8$$

$$\begin{array}{r} 4 \quad 4 \\ \hline x = -2 \end{array}$$

$$x = -2$$

b)  $-3x = x - (6 - 2x)$

$$-3x = x - 6 + 2x$$

$$-3x = 3x - 6$$

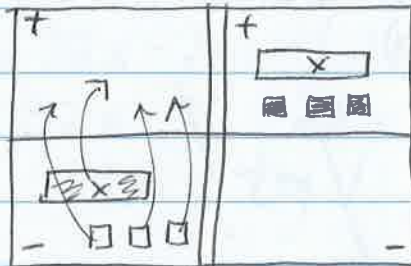
$$\begin{array}{r} -3x \quad -3x \\ \hline -6x = -6 \end{array}$$

$$-6x = -6$$

$$\begin{array}{r} -6 \quad -6 \\ \hline x = 1 \end{array}$$

$$x = 1$$

c)  $-(x-3) = -x+3$



pos  $x$  becomes  
neg  $x$  when flipped.  
all 3 neg. "1"s become  
3 pos. "1"s.

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

↑  
represents the  
opposite of  $(x-3)$ , which  
is  $-x+3$

3-75)

a) If  $3x+7 = x-1$ , does  $x = -4$

$$3(-4) + 7 = (-4) - 1$$

$$-12 + 7 = -5$$

$$(-5) = (-5)$$

Yes!

b) If  $-2x - 4 = -4x + 3$  does  $x = 3$ ?

$$-2(3) - 4 = -4(3) + 3$$

$$-6 - 4 = -12 + 3$$

$$-10 \neq -9 \quad \underline{\text{NO}}$$

c) If  $-3x + 5 + 5x - 1 = 0$  does  $x = 2$ ?

$$-3(2) + 5 + 5(2) - 1 = 0$$

$$-6 + 5 + 10 - 1 = 0$$

$$-11 + 9 = 0$$

$$-2 \neq 0$$

NO!

d) If  $-(x-1) = 4x - 5 - 3x$  does  $x = 3$ ?

$$-(3-1) = 4(3) - 5 - 3(3)$$

$$-(2) = 12 - 5 - 9$$

$$-2 = 7 - 9$$

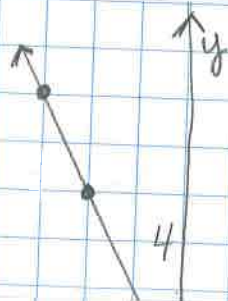
$$-2 = -2$$

yes!

3-76)

rule  $y = -2x + 1$

IN (x)	-4	-3	-2	-1	0	1	2	3	4
OUT (y)	9	7	5	4	1	-1	-3	-5	-7



b) If  $-2x - 4 = -4(3) + 3$  does  $x = 3$ ?

$$-2(3) - 4 = -4(3) + 3$$

$$-6 - 4 = -12 + 3$$

$$-10 \neq -9 \quad \underline{\text{NO}}$$

c) If  $-3x + 5 + 5x - 1 = 0$  does  $x = 2$ ?

$$-3(2) + 5 + 5(2) - 1 = 0$$

$$-6 + 5 + 10 - 1 = 0$$

$$-11 + 9 = 0$$

$$-2 \neq 0 \quad \text{NO!}$$

d) If  $-(x-1) = 4x - 5 - 3x$  does  $x = 3$ ?

$$-(3-1) = 4(3) - 5 - 3(3)$$

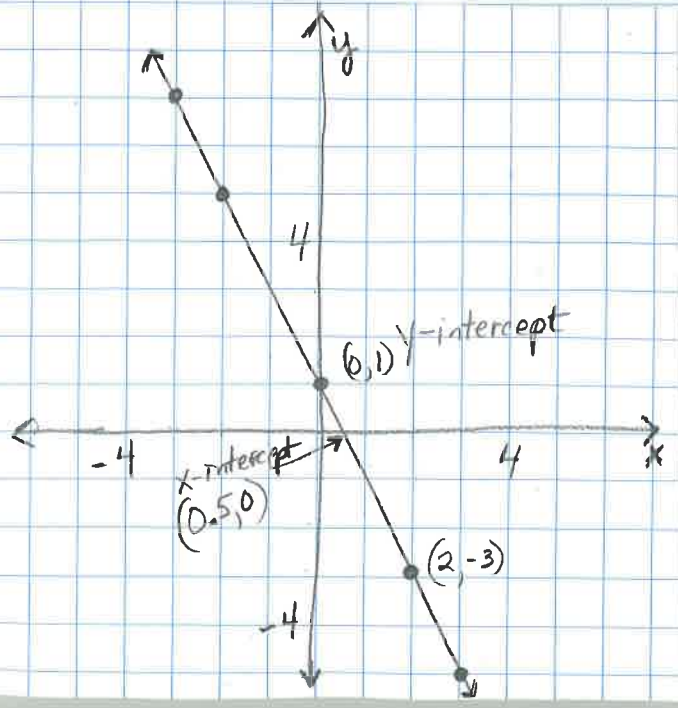
$$-(2) = 12 - 5 - 9$$

$$-2 = 7 - 9$$

$$-2 = -2 \quad \text{yes!}$$

3-76)  
rule  $y = -2x + 1$

IN (x)	-4	-3	-2	-1	0	1	2	3	4
OUT (y)	9	7	5	4	1	-1	-3	-5	-7



b) The graph is a slanted line that decreases as  $x$  increases.

3-77)

$$\begin{aligned} \text{a) } & 4x + 7 + 3y - (1 + 3y + 2x) \\ & 4x + 7 + 3y - 1 - 3y - 2x \\ & 2x + 6 \end{aligned}$$

$$\begin{aligned} \text{b) } & 16x^2 - 4x + 5 - (16x^2 - 8x) + 1 \\ & 16x^2 - 4x + 5 - 16x^2 + 8x + 1 \\ & 4x + 6 \end{aligned}$$

$$\begin{aligned} \text{c) } & (32x - 7y) - (28x - 11y) \\ & 32x - 7y - 28x + 11y \\ & 4x + 4y \end{aligned}$$

$$\begin{aligned} \text{d) } & \sqrt{y} + 2 + 2\sqrt{y} + 2 + 2\sqrt{y} - 2x + \sqrt{y} \\ & 6\sqrt{y} + 4 - 2x \end{aligned}$$

3-78)

2 - 5 lb. bags of meat for \$27.50

$$\begin{array}{l} \text{a) } 25 \text{ lbs. of meat is } \$68.75 \times 25 \\ \frac{10 \text{ lb.} \xrightarrow{\times 2.5}}{27.50} = \frac{25 \text{ lbs.}}{\$68.75} \qquad \frac{1 \text{ lb.} \xrightarrow{\times 25}}{\$2.75} = \frac{25 \text{ lbs.}}{\$68.75} \end{array}$$

\$55 will buy 20 lbs of meat.

$$\frac{1 \text{ lb.} \xrightarrow{\times 20}}{\$2.75} = \frac{20 \text{ lbs.}}{\$55}$$