

Assign 12

New: (No Calc)

Book: pg 113: 17, 19, 21, 27

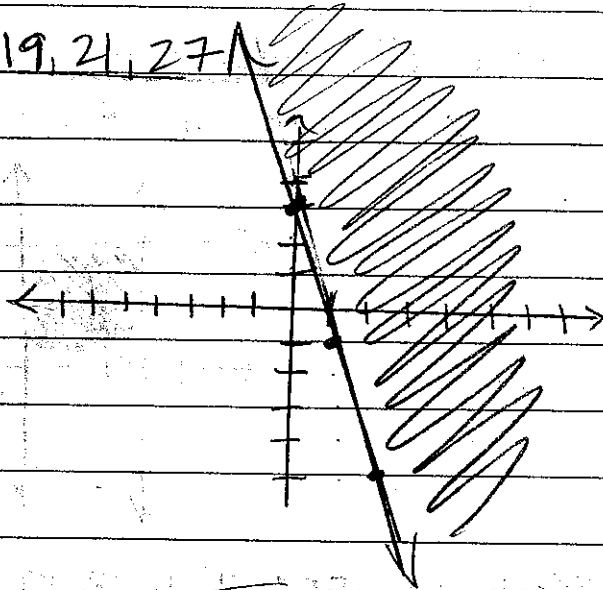
17. $y \geq -4x + 3$

Test (0,0)

$$0 \geq -4(0) + 3$$

$$0 \geq 3 \quad \times$$

Shade other side



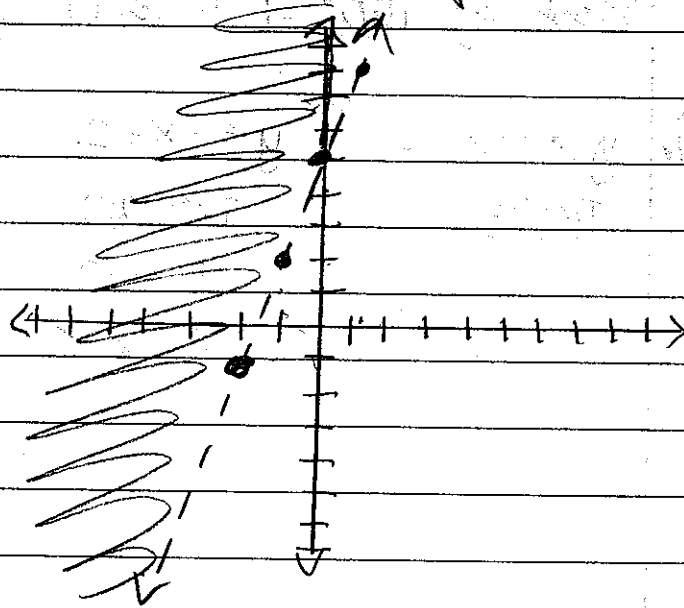
19. $y > \frac{1}{3}x + 5$

Test (0,0)

$$0 > \frac{1}{3}(0) + 5$$

$$0 > 5 \quad \times$$

Shade other side



21. $3 \geq x - 3y$

$$3y \geq x - 3$$

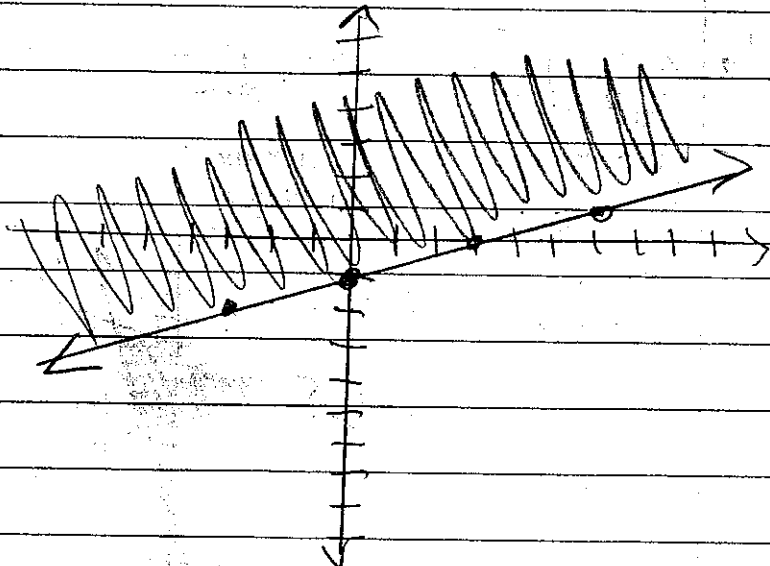
$$y \geq \frac{1}{3}x - 1$$

Test (0,0)

$$0 \geq \frac{1}{3}(0) - 1$$

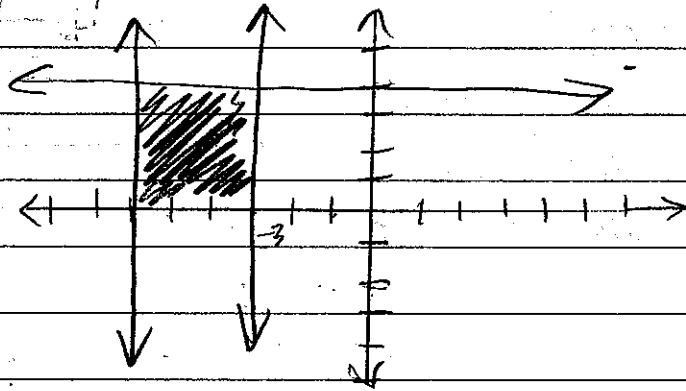
$$0 \geq -1 \quad \checkmark$$

Shade (0,0) side



27. graph all second quad points bound by

$$x = -3, x = -6, \text{ and } y = 4$$



Book pg 150: 9, 11, 13, 17, 19, 21, 25

9. $y \geq 2x - 2$ $y \leq -x + 2$

Test (0,0)

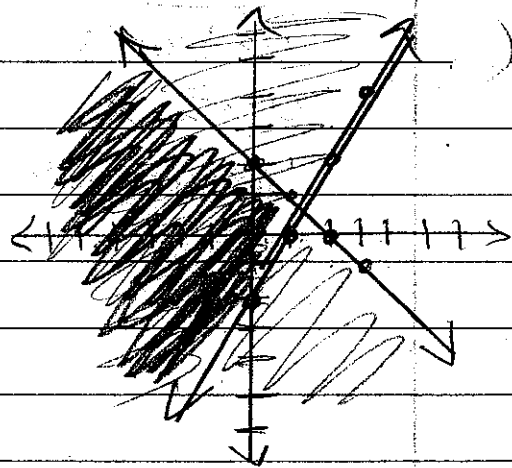
$$0 \geq 0 - 2$$

$$0 \geq -2 \checkmark$$

Test (0,0)

$$0 \leq 0 + 2$$

$$0 \leq 2 \checkmark$$



11. $x - 3y \geq 9$

$$-3y \geq -x + 9$$

$$y \leq \frac{1}{3}x + 3$$

Test (0,0)

$$0 \leq 0 + 3$$

$$0 \leq 3 \checkmark$$

$$4x - y \leq 4$$

$$-y \leq -4x + 4$$

$$y \geq 4x - 4$$

Test (0,0)

$$0 \geq -4 \checkmark$$

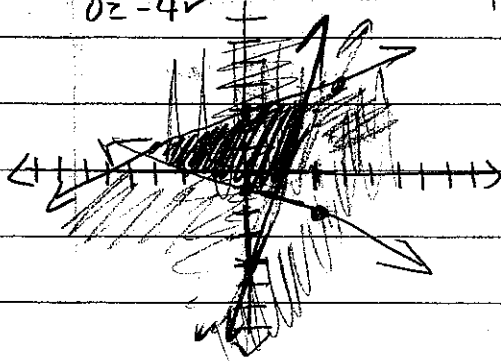
$$x + 2y \geq -2$$

$$2y \geq -x - 2$$

$$y \geq -\frac{1}{2}x - 1$$

Test (0,0)

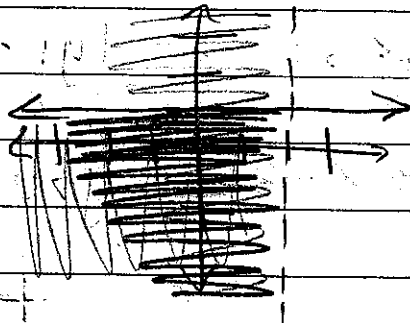
$$0 \geq -1 \checkmark$$



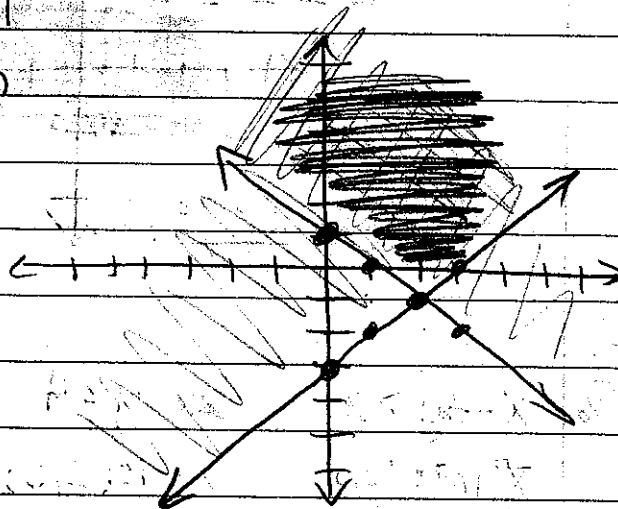
Assign 12 cont

Pg 150: 9, 11, 13, 17, 19, 21, 25

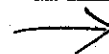
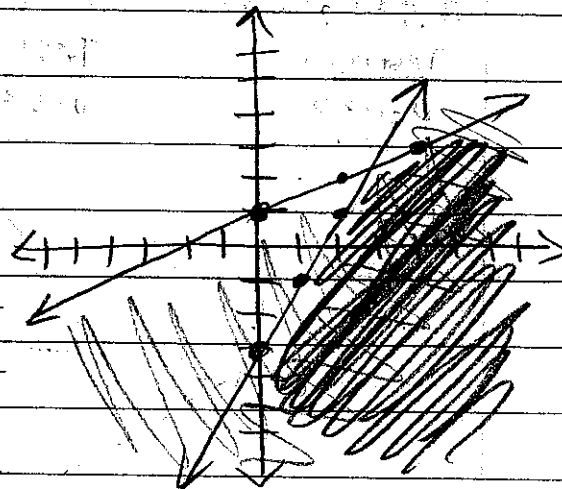
13. $x < 2$
 $y \geq 1$



17. $y \geq x - 3$ $y \geq -x + 1$
 Test (0,0) Test (0,0)
 $0 \geq 0 - 3$ $0 \geq 0 + 1$
 $0 \geq -3 \checkmark$ $0 \geq 1$

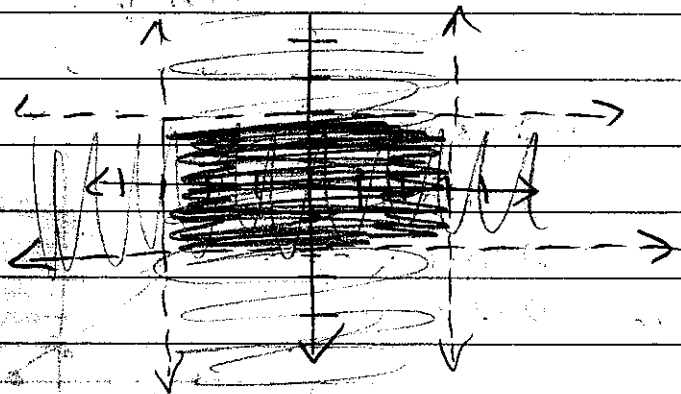


19. $y \leq 2x - 3$ $y \leq \frac{1}{2}x + 1$
 Test (0,0) Test (0,0)
 $0 \leq 2(0) - 3$ $0 \leq 0 + 1$
 $0 \leq -3 \times$ $0 \leq 1 \checkmark$



21. $|x| < 3$ $|y| > 2$

$x < 3, x > -3$ $y > 2, y < -2$



25. $x - 3y > 2$ $2x - y < 4$ $3x + 4y > 0$

x -int: $(2, 0)$ x -int: $(2, 0)$ x -int: $(0, 0)$ $y > -\frac{3}{4}x$

y -int: $(0, -\frac{2}{3})$ y -int: $(0, -4)$ y -int: $(0, 0)$

Test $(0, 0)$

$0 - 0 > 2$
 $0 > 2 \times$

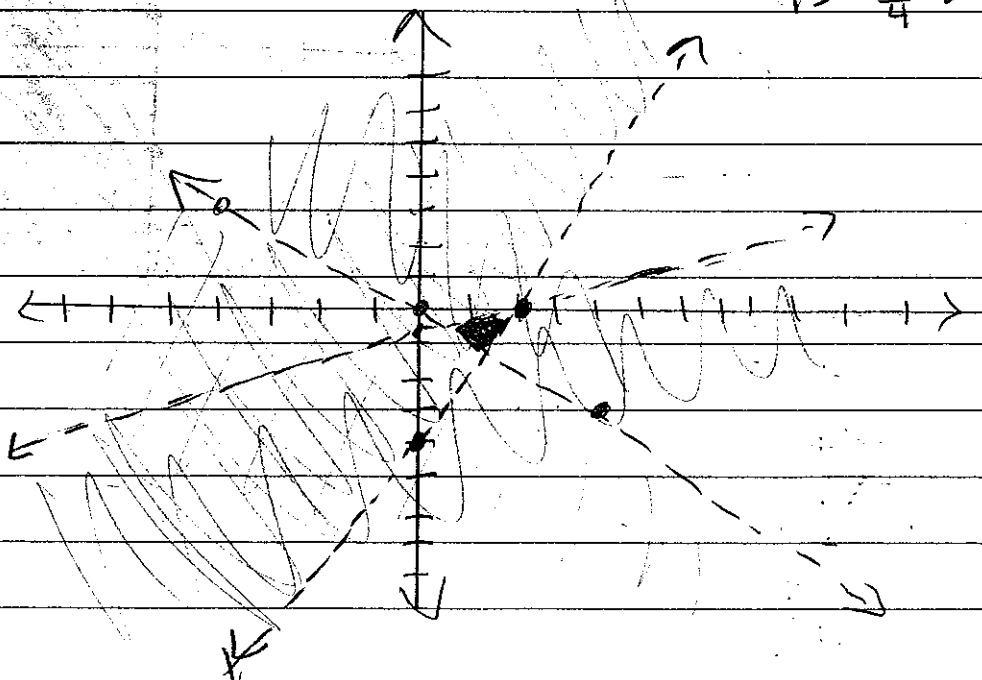
Test $(0, 0)$

$0 - 0 < 4$
 $0 < 4 \checkmark$

Test $(1, 1)$ $y > -\frac{3}{4}x$

$1 > -\frac{3}{4}(1)$

$1 > -\frac{3}{4} \checkmark$



Assign 12
cont

Book pg 152: Self test #9

9. $x + y > 2$

x-int: (2,0)

y-int: (0,2)

Test (0,0)

$0 + 0 > 2$

$0 > 2$ x

$x - 2y \leq -1$

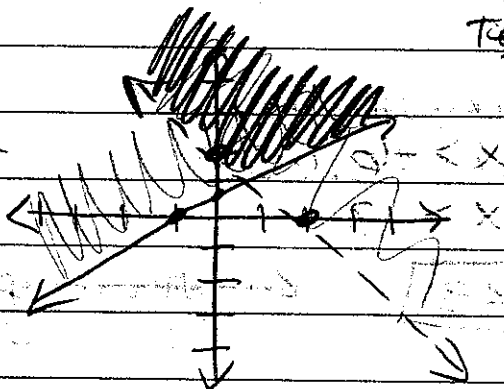
x-int: (-1,0)

y-int: (0, 1/2)

Test (0,0)

$0 - 2(0) \leq -1$

$0 \leq -1$ x



Review (No calc on 1-6)

Packet

1. $2(x-4) + 5 \geq 9$

$2x - 8 + 5 \geq 9$

$2x - 3 \geq 9$

$2x \geq 12$

$x \geq 6$



2. $|2x - 5| - 13 = -6$

$+13 \quad +13$

$|2x - 5| = 7$

$x = 6, -1$

$2x - 5 = 7$

$2x = 12$

$x = 6$

$2x - 5 = -7$

$2x = -2$

$x = -1$

Review pkt cont no calc H6

$$3. \quad 9 - |2x| > 3$$

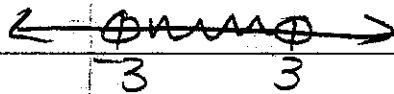
$$\frac{-|2x|}{-1} > \frac{-6}{-1}$$

$$|2x| < 6$$

$$2x < 6 \quad 2x > -6$$

$$x < 3 \quad x > -3$$

$$\boxed{-3 < x < 3}$$

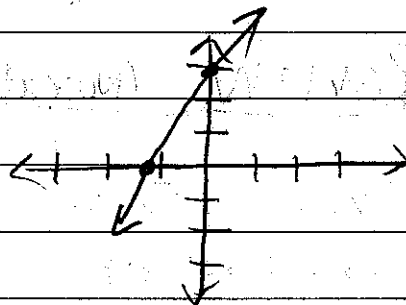


4. Find x & y int + graph

$$-5x = 6 - 2y$$

$$x\text{-int: } (-\frac{6}{5}, 0)$$

$$y\text{-int: } (0, 3)$$



5. Find slope: (2, 3) (9, 7)

$$m = \frac{7-3}{9-2} = \frac{4}{7}$$

$$\boxed{m = \frac{4}{7}}$$

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

$$x\text{-int: } (3, 0)$$

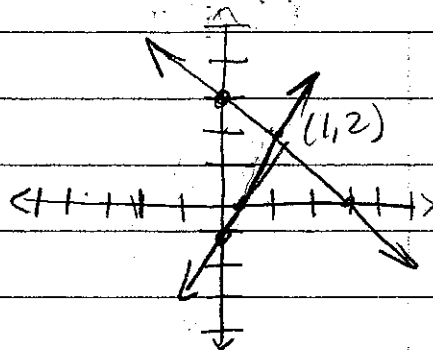
$$y\text{-int: } (0, 3)$$

$$3x - y = 1$$

$$x\text{-int: } (\frac{1}{3}, 0)$$

$$y\text{-int: } (0, -1)$$

$$\boxed{(1, 2)}$$



Assign 12
cont

use calc

7. $y = x\sqrt{9-x^2}$

X-int: $(-3, 0)$

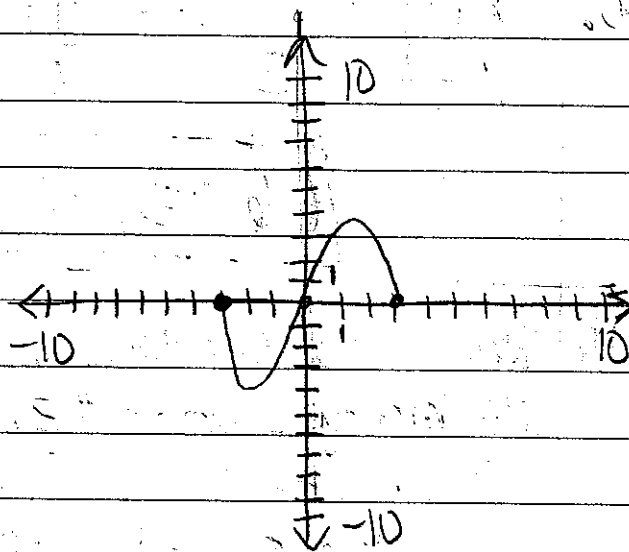
$(3, 0)$

$(0, 0)$

Y-int: $(0, 0)$

$y = 0\sqrt{9-0}$

$y = 0$



8. $y = \frac{1}{4}x^4 - 2x^2$

X-int: $(-3, 0)$

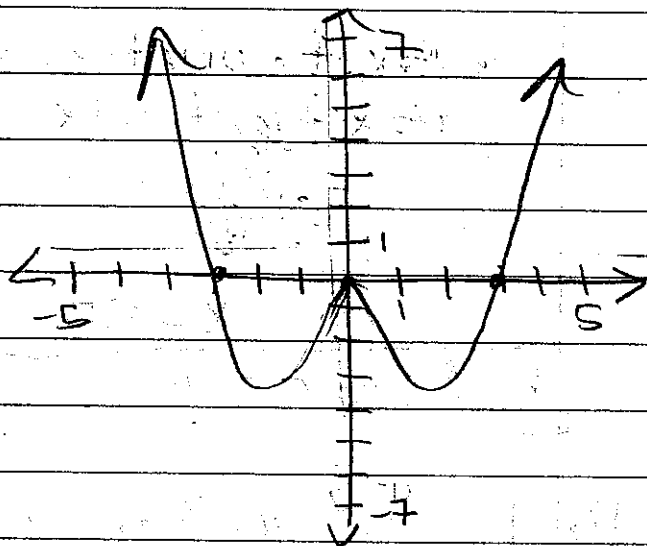
$(0, 0)$

$(3, 0)$

Y-int: $(0, 0)$

$y = \frac{1}{4}(0)^4 - 2(0)^2$

$y = 0$



9. $x + 5y = 10$

$x + 5y = 15$

NO solution

$$10. \quad \begin{aligned} x + y &= 4 & \rightarrow y &= -x + 4 \\ x - y &= 8.5 & \rightarrow y &= x - 8.5 \end{aligned}$$

$$\boxed{(6.25, -2.25)}$$

11. Paul has 64 coins in nickels + dimes.
The money is worth \$3.65. How many of each?

$$\begin{aligned} x &= \text{nickels} & x + y &= 64 & \rightarrow y &= 64 - x \\ y &= \text{dimes} & .05x + .10y &= 3.65 \end{aligned}$$

$$.05x + .10(64 - x) = 3.65$$

$$.05x + 6.4 - .1x = 3.65$$

$$\begin{array}{r} .05x + 6.4 - .1x = 3.65 \\ - .05x = -2.75 \\ \hline - .05 = -2.75 \end{array}$$

$$x = 55$$

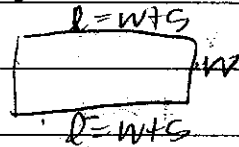
$$y = 9$$

$\boxed{\text{Paul has 55 nickels and 9 dimes.}}$

12. Find the length and width of a rectangle lot with perimeter of 70 meters if the length is 5 meters more than the width

$$l = \text{length} \quad l = w + 5$$

$$w = \text{width} \quad 70 = 2w + 2l$$



$$70 = 2w + 2(w + 5)$$

$$70 = 2w + 2w + 10$$

$$\begin{array}{r} 70 = 4w + 10 \\ -10 = -10 \\ \hline 60 = 4w \end{array}$$

$$\frac{60}{4} = \frac{4w}{4}$$

$$w = 15$$

$$l = 15 + 5 = 20$$

$\boxed{\text{The length is 20 m + the width is 15 m.}}$

Assign 12
Cont

13. Old MacDonald raises ducks & cows.
The animals have a total of 32 heads & 72 feet. How many of each are on the farm?

$$x = \text{ducks}$$

$$y = \text{cows}$$

$$x + y = 32 \rightarrow x = 32 - y$$

$$2x + 4y = 72$$

$$2(32 - y) + 4y = 72$$

$$x = 32 - 4$$

$$\begin{array}{r} 64 - 2y + 4y = 72 \\ -64 \end{array}$$

$$x = 28$$

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

$$y = 4$$

Old MacDonald has 28 ducks & 4 cows.

no calc

Book pg 117: 33, 37

33. slope = $\frac{3}{4}$, passes through $(-6, 9)$

$$y = \frac{3}{4}x + b$$

$$9 = \frac{3}{4}(-6) + b$$

$$9 = -\frac{9}{2} + b$$

$$\frac{18}{2} = -\frac{9}{2} + b$$

$$\frac{18}{2} + \frac{9}{2}$$

$$\frac{27}{2} = b$$

$$y = \frac{3}{4}x + \frac{27}{2}$$

37. passes through (1,2) & parallel to $y = -3x + 7$

$$m = -3$$

$$y = -3x + b$$

$$2 = -3(1) + b$$

$$2 = -3 + b$$

$$\begin{array}{r} +3 \\ \hline \end{array}$$

$$5 = b$$

$$\boxed{y = -3x + 5}$$

Book pg 137: 2b

$$2b. \left(\frac{2}{5}x - \frac{1}{2}y = 6\right) 10 \rightarrow (4x - 5y = 60) 3$$

$$\left(\frac{4}{5}x + \frac{3}{2}y = -8\right) 10 \rightarrow 8x + 15y = -80$$

$$12x - 15y = 180$$

$$8x + 15y = -80$$

$$\begin{array}{r} 20x \quad = 100 \\ \hline 20 \quad \quad 20 \end{array}$$

$$x = 5$$

$$\boxed{(5, -8)}$$

$$\frac{2}{5}\left(\frac{5}{2}\right) - \frac{1}{2}y = 6$$

$$2 - \frac{1}{2}y = 6$$

$$\begin{array}{r} -2 \\ \hline \end{array}$$

$$\frac{-\frac{1}{2}y}{\frac{-1}{2}} = \frac{4}{\frac{-1}{2}}$$

$$y = -8$$

$$\frac{4}{1} \cdot \frac{2}{7} = \frac{-8}{7}$$

Book pg 176: #18-20 all

solve using either sub. or elim.

18. $7y - 2x = 10 \rightarrow 7y - 2x = 10$

$$(-3y + x = -3) 2 \rightarrow \underline{-6y + 2x = -6}$$

$$y = 4$$

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

$$-12 + x = -3$$

$$\begin{array}{r} +12 \quad +12 \\ \hline \end{array}$$

$$x = 9$$

$$\boxed{(9, 4)}$$

Assign #12
cont

$$19. (-6y - 2x = 0) \cdot 3 \rightarrow -18y - 6x = 0$$

$$(11y + 3x = 4) \cdot 2 \rightarrow 22y + 6x = 8$$

$$\begin{array}{r} 22y + 6x = 8 \\ -18y - 6x = 0 \\ \hline 4y = 8 \\ \hline y = 2 \end{array}$$

$$-6(2) - 2x = 0$$

$$-12 - 2x = 0$$

$$\frac{-2x = 12}{-2} \quad \frac{12}{-2}$$

$$x = -6$$

$$y = 2$$

$$\boxed{(-6, 2)}$$

$$20. 3x - 5y = -13$$

$$4x + 2y = 0 \rightarrow 2y = -4x \rightarrow y = -2x$$

$$3x - 5(-2x) = -13$$

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

$$3x + 10x = -13$$

$$y = 2$$

$$13x = -13$$

$$x = -1$$

$$\boxed{(-1, 2)}$$

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