Assign #6

New

Book pg 84: 6–9 all, 11, 19, 21, 23

State the slope

6. $(-3,0), (0,-2)$ $\quad m = \frac{-2-0}{0+3} = \frac{-2}{3}$ $\quad \boxed{m = -2/3}$

7. $(-2,0), (1,3)$ $\quad m = \frac{3-0}{1+2} = \frac{3}{3} = 1$ $\quad \boxed{m = 1}$

8. $\boxed{m = \text{undefined}}$ (vertical line)

9. $(1,1), (3,1)$ $\quad m = \frac{1-1}{3-1} = \frac{0}{2} = 0$ $\quad \boxed{m = 0, \text{ horizontal}}$

11. $(3,4), (1,2)$ $\quad m = \frac{2-4}{1-3} = \frac{-2}{-2} = 1$ $\quad \boxed{m = 1, \text{ rises to right}}$

19. $(6,8), (5,-5)$ $\quad m = \frac{-5-8}{5-6} = \frac{-13}{-1} = 13$ $\quad \boxed{m = 13, \text{ rises to right}}$

21. $(7,8), (1,8)$ $\quad m = \frac{8-8}{1-7} = \frac{0}{-6} = 0$ $\quad \boxed{m = 0, \text{ horizontal}}$

23. $(a,2), (a,-2)$ $\quad m = \frac{-2-2}{a-a} = \frac{-4}{0} = \text{undefined}$

$\boxed{m = \text{undefined, vertical line}}$

New cont

Packet

1. $y = 1.1 - 2x$ — linear

2. $x = 10$ — linear

3. $\frac{3}{x} + \frac{4}{y} = 2$ — Not linear, divide by variables

4. $\frac{2}{5}x - \frac{2}{3}y = 5$ — linear

5. $x + y^2 = 25$ — Not linear, y^2 - can't multiply variables

6. $3y + 2 = 0$ — linear

Find x+y int. & graph

7. $6x + y = 9$

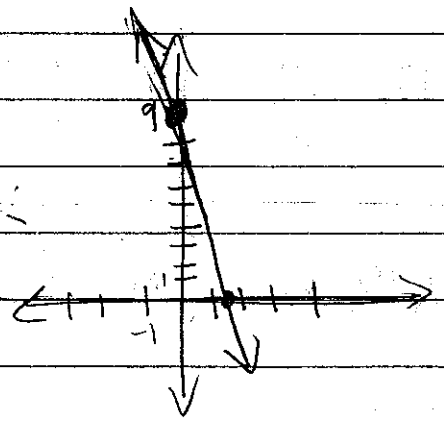
x-int: $(3/2, 0)$

$\frac{6x}{6} = \frac{9}{6}$

$x = 3/2$

y-int: $(0, 9)$

$y = 9$



8. $y = x - 2$

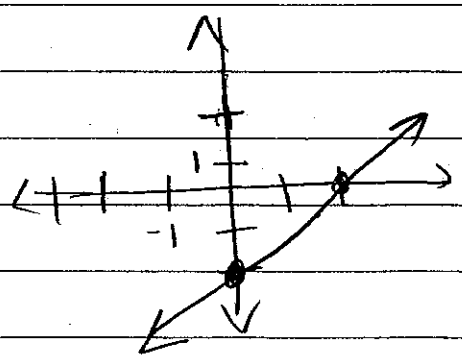
x-int: $(2, 0)$

$\frac{0}{+2} = \frac{x-2}{+2}$

$x = 2$

y-int: $(0, -2)$

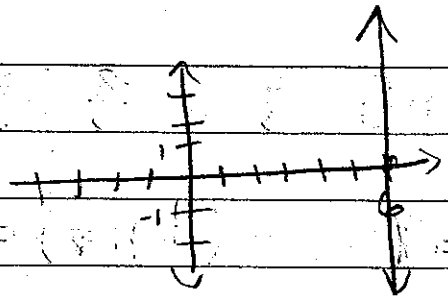
$y = -2$



Assign 6 cont

9. $x = 6$

x-int: (6, 0)
y-int: none



10. $5x + 3y = 15$

x-int: (3, 0)

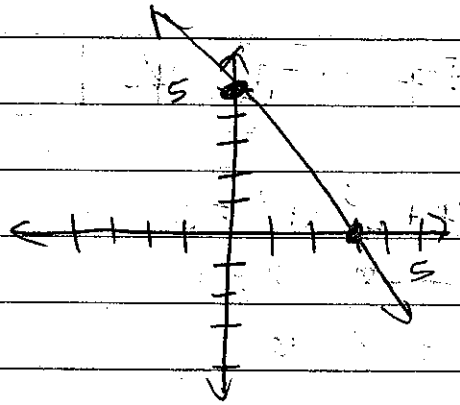
$\frac{5x}{5} = \frac{15}{5}$

$x = 3$

y-int: (0, 5)

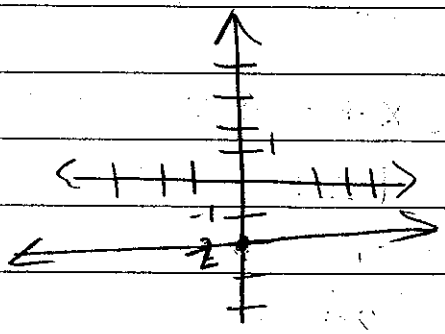
$\frac{3y}{3} = \frac{15}{3}$

$y = 5$



11. $y = -2$

x-int: none
y-int: (0, −2)



Review

12. $-0.37 + 0.812 = .442$

$$\begin{array}{r} .812 \\ -.370 \\ \hline .442 \end{array}$$

13. $-15 \div 3/4 = -\frac{15}{1} \cdot \frac{4}{3} = -20$

14. $-\frac{4}{3}+\frac{5}{6}-\frac{7}{3}=\frac{-8}{6}+\frac{5}{6}-\frac{14}{6}=\boxed{\frac{-17}{6}}$

15. $\left(\frac{-3}{4}\right)\left(\frac{1}{8}\right)-\left(\frac{1}{4}\right)\left(\frac{1}{8}\right)=\frac{-3}{32}-\frac{1}{32}=\frac{-4}{32}=\boxed{\frac{-1}{8}}$

16. Name set of #'s: 2425 $\boxed{\mathbb{N}, \mathbb{W}, \mathbb{Z}, \mathbb{Q}, \mathbb{R}}$

17. $\sqrt{7}$ $\boxed{\text{II}, \mathbb{R}}$

18. $7+2^3-18\div 3$
$=7+8-18\div 3$
$=7+8-6$
$=15-6$
$=\boxed{9}$

19. $6\times 7+4\div 4-5$
$=42+1-5$
$=43-5$
$=\boxed{38}$

20. $\frac{1}{5}(10a-4)+\frac{1}{2}(8+4a)$
$=\frac{10}{5}a-\frac{4}{5}+\frac{8}{2}+\frac{4}{2}a$
$=2a+2a-\frac{4}{5}+\frac{8}{2}$
$=4a-\frac{8}{10}+\frac{40}{10}$
$=4a+\frac{32}{10}$
$=\boxed{4a+\frac{16}{5}}$

Assign 6 cont.

21. $\frac{3}{5}d + 5 = \frac{1}{3}d - 3$

$-\frac{1}{3}d \quad -5 \quad -\frac{1}{3}d \quad -5$

$\frac{3}{5}d - \frac{1}{3}d = -8$

$\frac{9}{15}d - \frac{5}{15}d = -8$

$\frac{\frac{4}{15}d = -8}{4/15 \quad 4/15}$

$d = \frac{-8}{1} \cdot \frac{15}{4_1} \rightarrow \boxed{d = -30}$

22. $|2y - 3| = 29$

$2y - 3 = 29 \quad +3 \quad +3$ $\qquad$ $2y - 3 = -29 \quad +3 \quad +3$

$\frac{2y}{2} = \frac{32}{2}$ $\qquad$ $\frac{2y}{2} = \frac{-26}{2}$

$\boxed{y = 16 \qquad y = -13}$

23. $\frac{7|x+3|}{7} = \frac{42}{7}$ $\qquad$ *divide FIRST!

$|x+3| = 6$

$x + 3 = 6 \quad -3 \quad -3$ $\qquad$ $x + 3 = -6 \quad -3 \quad -3$

$\boxed{x = 3 \qquad x = -9}$

24. $\left|\frac{2}{3}x - 6\right| = 42$

$\frac{2}{3}x - 6 = 42 \quad +6 \quad +6$ $\qquad$ $\frac{2}{3}x - 6 = -42 \quad +6 \quad +6$

$\frac{\frac{2}{3}x}{2/3} = \frac{48}{2/3}$ $\qquad$ $\frac{\frac{2}{3}x}{2/3} = \frac{-36}{2/3}$

$x = \frac{48}{1} \cdot \frac{3}{2} = 72$ $\qquad$ $x = \frac{-36}{1} \cdot \frac{3}{2} = -54$

$\boxed{x = 72, -54}$

25. $|5x-4| = -6$ **No solution**

26. $4|2y-7|+5 = 9$

$-5 \quad -5$

$\frac{4}{4}|2y-7| = \frac{4}{4}$

$|2y-7| = 1$

$2y-7=1$ $\quad +7 \quad +7$

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

$y = 4$

$2y-7=-1$ $\quad +7 \quad +7$

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

$y = 3$

$y=4$ $\quad y=3$

27. $|x-4| > 2$

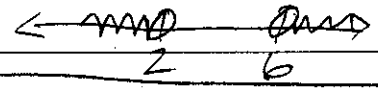
$x-4>2$ $\quad +4 \quad +4$

$x>6$

$x-4<-2$ $\quad +4 \quad +4$

$x<2$

$x<2$ or $x>6$



Book: pg 52: 30, 32, 49-52 all

30. $|2x-9| \leq 27$

$2x-9 \leq 27$ $\quad +9 \quad +9$

$\frac{2x}{2} \leq \frac{36}{2}$

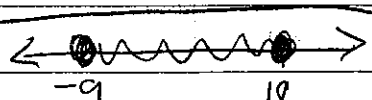
$x \leq 18$

$2x-9 \geq -27$ $\quad +9 \quad +9$

$\frac{2x}{2} \geq \frac{-18}{2}$

$x \geq -9$

$-9 \leq x \leq 18$



Assign 6 cont

pg 53 cont

32. $|5x| < -25$ **No solution, $\emptyset$**

49. $\frac{9(x+2)}{9} < \frac{72}{9}$

$x+2 < 8$

$-2 \quad -2$

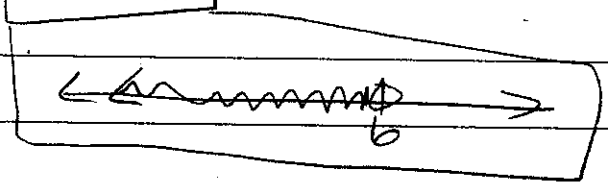
$x < 6$

OR $9x + 18 < 72$

$-18 \quad -18$

$\frac{9x}{9} < \frac{54}{9}$

$x < 6$



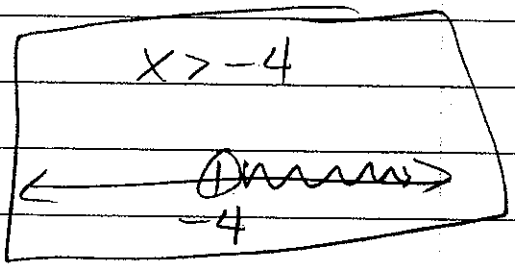
50. $3(3x+2) > 7x-2$

$9x+6 > 7x-2$

$-7x \quad -6 \quad -7x \quad -6$

$\frac{2x}{2} > \frac{-8}{2}$

$x > -4$



51. $8x+5 < 7x-3$

$-7x \quad -5 \quad -7x \quad -5$

$x < -8$

52. $-4(3m-7) - (3-m) < 13$

$-12m + 28 - 3 + m < 13$

$-11m + 25 < 13$

$-25 \quad -25$

$\frac{-11m}{-11} < \frac{-12}{-11}$

$m > \frac{12}{11}$

$m > \frac{12}{11}$