

New

Assign # 7

Book pg 85: 12-14 all, 25, 27-29 all

Find slope

$$12. \quad \begin{array}{r} 2x - y = 4 \\ -2x \quad -2x \end{array}$$

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

$$y = 2x - 4$$

$$m = 2$$

$$13. \quad \begin{array}{r} x + y = 3 \\ -x \quad -x \end{array}$$

$$y = -x + 3$$

$$m = -1$$

$$14. \quad \begin{array}{r} 2x + 3y = 6 \\ -2x \quad -2x \end{array}$$

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

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

$$m = -\frac{2}{3}$$

$$25. \quad \begin{array}{r} 3x + 9 = 0 \\ -9 \quad -9 \end{array}$$

$$\frac{3x}{3} = \frac{-9}{3}$$

$$x = -3$$

$$m = \text{undefined}$$

(vertical line)

$$27. \quad \begin{array}{r} 2x + 3y + 32 = 0 \\ -2x \quad -32 \end{array}$$

$$\frac{3y}{3} = \frac{-2x-32}{3}$$

$$m = -\frac{2}{3}$$

$$28. \quad \begin{array}{r} 3x - 4y = 0 \\ -3x \quad -3x \end{array}$$

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

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

$$m = \frac{3}{4}$$

$$29. \quad y = 5$$

$$m = 0 \quad (\text{horizontal line})$$

Book pg 91: 11-25 odd, 33-41 odd
state slope + y-int.

$$11. \quad \frac{2y}{2} = \frac{4x + 6}{2}$$

$$y = 2x + 3$$

$$m = 2, \quad b = 3$$

Write an equation in $y = mx + b$

$$13. \quad (-4, 2), (0, 7)$$

$$m = \frac{7-2}{0-(-4)} = \frac{5}{4}$$

$$y = \frac{5}{4}x + b$$

$$7 = \frac{5}{4}(0) + b$$

$$b = 7$$

$$\rightarrow y = \frac{5}{4}x + 7$$

$$15. \quad (-3, -3), (3, -1)$$

$$m = \frac{-1-(-3)}{3-(-3)} = \frac{2}{6} = \frac{1}{3}$$

$$y = \frac{1}{3}x + b$$

$$-1 = \frac{1}{3}(-3) + b$$

$$-1 = 1 + b$$

$$-1 - 1$$

$$b = -2$$

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

Pg 92

Assign 7
Cont

17. $(6, 1), (8, -4)$

$$m = \frac{-4-1}{8-6} = \frac{-5}{2}$$

$$y = \frac{-5}{2}x + b$$

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

$$1 = -15 + b$$

$$+15 \quad +15$$

$$b = 16$$

$$y = \frac{-5}{2}x + 16$$

19. $(0, -2)$ and perpendicular to graph of $y = x - 2$

$$\perp m = -\frac{1}{m=1}$$

$$y = -1x + b$$

$$-2 = -1(0) + b$$

$$b = -2$$

$$y = -x - 2$$

state m+b

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

$$m = \frac{-2}{3}, b = -4$$

23. $\frac{-y}{1} = \frac{0.3x + b}{-1}$

$$-y = -0.3x - b$$

$$y = 0.3x + b$$

$$m = -0.3 \quad b = -b$$

25. $\frac{-5y}{-5} = \frac{3x - 30}{-5}$

$$-y = -\frac{3}{5}x + 6$$

$$y = \frac{3}{5}x - 6$$

$$m = \frac{3}{5}, b = 6$$

33. passes $(-2, 5), (3, 1)$

$$m = \frac{1-5}{3-(-2)} = \frac{-4}{5}$$

$$y = -\frac{4}{5}x + b$$

$$1 = -\frac{4}{5}\left(\frac{3}{1}\right) + b$$

$$1 = -\frac{12}{5} + b$$

$$\frac{12}{5} + \frac{12}{5}$$

$$\frac{5}{5} + \frac{12}{5} = b$$

$$\frac{17}{5} = b$$

$$y = -\frac{4}{5}x + \frac{17}{5}$$

35. passes through $(-2, -3), (0, 0)$

$$m = \frac{0-(-3)}{0-(-2)} = \frac{3}{2}$$

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

$$0 = \frac{3}{2}(0) + b$$

$$b = 0$$

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

37. x-int = $\frac{1}{3}$, y-int = $-\frac{1}{4}$

$(\frac{1}{3}, 0), (0, -\frac{1}{4})$

$$m = \frac{-\frac{1}{4} - 0}{0 - \frac{1}{3}} = \frac{-\frac{1}{4}}{-\frac{1}{3}} = \frac{1}{4} \cdot \frac{3}{1}$$

$$m = \frac{3}{4}$$

$$y = \frac{3}{4}x - \frac{1}{4}$$

39. passes through $(4, 6)$, parallel to $y = \frac{2}{3}x + 5$

$$m = \frac{2}{3}$$

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

$$6 = \frac{2}{3}\left(\frac{4}{1}\right) + b$$

$$\frac{6}{1} = \frac{8}{3} + b$$

$$\frac{6}{1} - \frac{8}{3}$$

$$\frac{6}{1} - \frac{8}{3} = b$$

$$\frac{18}{3} - \frac{8}{3} = b$$

$$\frac{10}{3} = b$$

$$y = \frac{2}{3}x + \frac{10}{3}$$

4) passes through $(-3, -1)$, parallel to the line that goes through $(3, 3)$ and $(0, 6)$

$$m = \frac{6-3}{0-3} = \frac{3}{-3} = -1$$

$$y = -x + b$$

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

$$-1 = 3 + b$$

$$-3 - 3$$

$$b = -4$$

$$y = -x - 4$$

Review

1. $-11.28 + (+4.8) = -6.48$

$$\begin{array}{r} 11.28 \\ - 4.80 \\ \hline -6.48 \end{array}$$

2. $\frac{-16}{7} \div \frac{-12}{35} = \frac{-16}{7} \cdot \frac{35}{-12} = \frac{20}{3}$

3. $\frac{1}{3} - \frac{1}{4} = \frac{4}{12} - \frac{3}{12} = \frac{1}{12}$

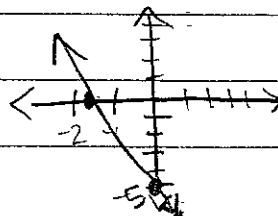
4. $x + y = 5$ linear

5. $x + xy = 4$ not linear, multiplied variables

6. $y = -3x - 5$

x-int: $(\frac{5}{3}, 0)$ y-int: $(0, -5)$

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

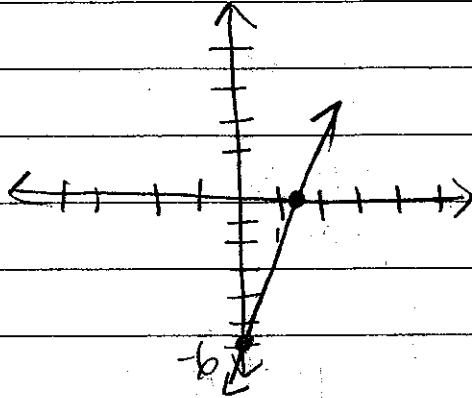


$$7. \quad y + 6 = 5x$$

$$y = 5x - 6$$

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

$$\text{y-int: } (0, -6)$$



8. ~~Book~~ pg 56: 19, 21, 28, 37, 40, 46, 48, 49, 51, 65-67 all, 70

$$19. \quad 4 - 12 = \boxed{-8; \mathbb{N}, \mathbb{W}, \mathbb{Z}, \mathbb{Q}, \mathbb{R}}$$

$$21. \quad \sqrt{2+3} = \sqrt{5}; \mathbb{I}, \mathbb{R}$$

$$28. \quad 3(a+4b) - 2(4a+2b)$$

$$= 3a + 12b - 8a - 4b$$

$$= \boxed{-5a + 8b}$$

$$37. \quad 4 - 2(1-w) = -38$$

$$4 - 2 + 2w = -38$$

$$\begin{array}{r} 2 + 2w = -38 \\ -2 \quad \quad -2 \\ \hline \end{array}$$

$$\begin{array}{r} 2w = -40 \\ \hline 2 \quad \quad 2 \end{array}$$

$$\boxed{w = -20}$$

$$40. \quad \frac{x}{3} + \frac{x}{2} = \frac{3}{4}$$

$$\frac{2x}{6} + \frac{3x}{6} = \frac{3}{4}$$

$$\frac{5x}{6} = \frac{3}{4}$$

$$x = \frac{3}{4} \cdot \frac{6}{5}$$

$$\boxed{x = \frac{9}{10}}$$

$$46. \quad |5y - 8| = 12$$

$$\begin{array}{l} 5y - 8 = 12 \\ +8 \quad +8 \end{array} \quad \begin{array}{l} 5y - 8 = -12 \\ +8 \quad +8 \end{array}$$

$$\frac{5y}{5} = \frac{20}{5} \quad \frac{5y}{5} = \frac{-4}{5}$$

$$\boxed{y = 4 \quad y = -\frac{4}{5}}$$

$$48. \quad |x + 4| + 3 = 17$$

$$|x + 4| = 14$$

$$\begin{array}{l} x + 4 = 14 \\ -4 \quad -4 \end{array} \quad \begin{array}{l} x + 4 = -14 \\ -4 \quad -4 \end{array}$$

$$\boxed{x = 10 \quad x = -18}$$

$$49. \quad |g - 3| + 7 = 2$$

$$|g - 3| = -5$$

No solution, \emptyset

$$56. \quad \frac{2|w+b|}{2} = \frac{10}{2}$$

$$|w+b| = 5$$

$$\begin{array}{r} w+b = 5 \\ -b \quad -b \\ \hline w = -1 \end{array}$$

$$\begin{array}{r} w+b = -5 \\ -b \quad -b \\ \hline w = -11 \end{array}$$

$$w = -1, -11$$

$$65. \quad |2x+b| \leq 4$$

$$\begin{array}{r} 2x+b \leq 4 \\ -b \quad -b \\ \hline 2x \leq -2 \\ \frac{2x}{2} \leq \frac{-2}{2} \\ x \leq -1 \end{array}$$

$$\begin{array}{r} 2x+b \geq -4 \\ -b \quad -b \\ \hline 2x \geq -10 \\ \frac{2x}{2} \geq \frac{-10}{2} \\ x \geq -5 \end{array}$$

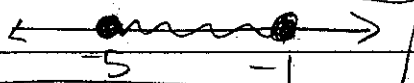
$$\frac{2x}{2} \leq \frac{-2}{2}$$

$$\frac{2x}{2} \geq \frac{-10}{2}$$

$$x \leq -1$$

$$x \geq -5$$

$$-5 \leq x \leq -1$$



$$66. \quad 7 + |9-5x| > 1$$

$$|9-5x| > -6$$

all Real numbers; \mathbb{R}

$$67. \quad |4x| + 3 \leq 0$$

$$|4x| \leq -3$$

no solution, \emptyset

$$70. \quad |2x+3| - 6 \geq 7$$

$$|2x+3| \geq 13$$

$$\begin{array}{r} 2x+3 \geq 13 \\ -3 \quad -3 \\ \hline 2x \geq 10 \\ \frac{2x}{2} \geq \frac{10}{2} \\ x \geq 5 \end{array}$$

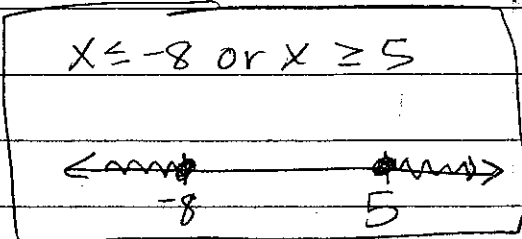
$$\begin{array}{r} 2x+3 \leq -13 \\ -3 \quad -3 \\ \hline 2x \leq -16 \\ \frac{2x}{2} \leq \frac{-16}{2} \\ x \leq -8 \end{array}$$

$$\frac{2x}{2} \geq \frac{10}{2}$$

$$\frac{2x}{2} \leq \frac{-16}{2}$$

$$x \geq 5$$

$$x \leq -8$$



Assign #7 cont

Book pg 84 : 18, 20

18. $(6, 1), (8, -4)$ $m = \frac{-4-1}{8-6} = \frac{-5}{2}$

$m = -\frac{5}{2}$, falls to right

20. $(-6, -5), (4, 1)$ $m = \frac{1+5}{4+6} = \frac{6}{10} = \frac{3}{5}$

$m = \frac{3}{5}$, rises to right

