Name Key

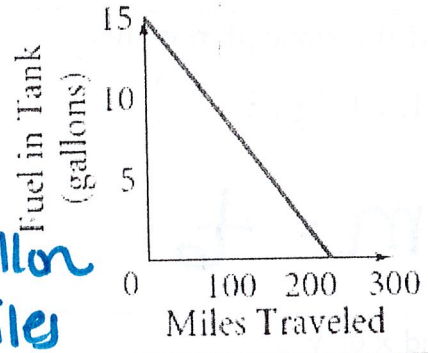
Bookwork 6.1 pages 286-289

3. Find the rate of change, explain what it means.

$\frac{-1}{15}$

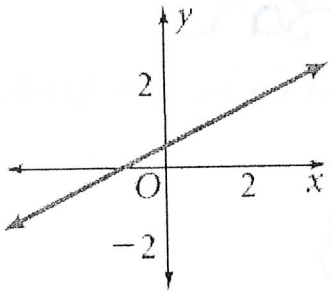
use 1 gallon for 15 miles

3. A Tank of Gas



7. Find the slope of the line

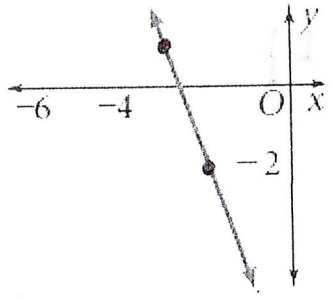
7.



$m = \frac{1}{2}$

8. Find the slope of the line

8.



$m = -3$

Find the slope:

15. (-3, 1) (3, -5) $m = -1$

18. Find the slope of the line: (-4, -5) (-9, 1)

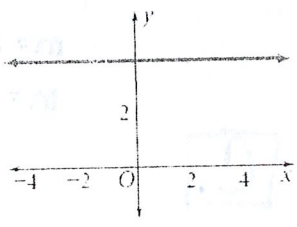
$m = \frac{-6}{5}$

21. find the slope of the line: (0, -1) (1, -6)

$m = -5$

Find the slope:

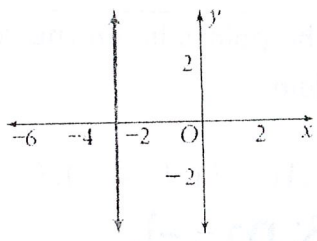
22.



$m = 0$

Find the slope:

23.



$m = \phi$

pg 280-289

Find the rate of change:

28. The cost of group museum tickets is $48 for 4 people and $78 for ten people.

$5/person

Find the slope of the line:

25. (4, 3) (4, -3)

$m = \emptyset$

26. Find the slope of the line: $(-5, \frac{1}{2})$ (-5, 3)

$m = \emptyset$

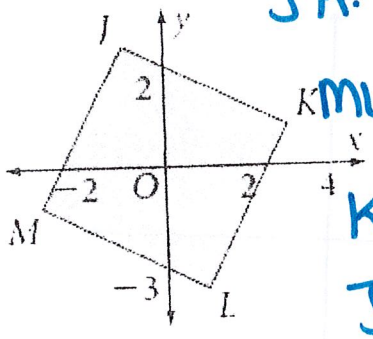
Find the slope of the line:

31. $\left(4, 1\frac{2}{3}\right), \left(-2, \frac{2}{3}\right)$

$m = \frac{1}{6}$

Find the slopes of the sides:

45.



JK: $-\frac{1}{2}$

ML: $-\frac{1}{2}$

KL: 2

JM: 2

Find x or y:

51. $(x, 3), (2, 8)$: slope $= -\frac{5}{2}$

$x = 4$

Find the slope:

63. $(a, -b), (-a, -b)$

$m = 0$

Find the slope:

65. $(2a, b), (c, 2d)$

$m = \frac{2d-b}{c-2a}$ or $m = \frac{b-2d}{2a-c}$

Do the points lie on the same line? Explain.

66. $A(1, 3), B(4, 2), C(-2, 4)$

yes

AB: $m = -\frac{1}{3}$

AC: $m = -\frac{1}{3}$

BC: $m = -\frac{1}{3}$

72. A line has slope $\frac{4}{3}$. Through which two points could this line pass?

A. (24, 19), (8, 10)

B. (10, 8), (16, 0)

C. (28, 10), (22, 2)

D. (4, 20), (0, 17)

C

C

6.2 pages 294-297

State the slope and y-intercept:

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

$m = 1$

$b = -5/4$

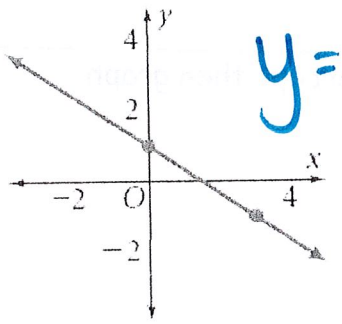
Write the equation of the line:

18. $m = -7$, $b = \frac{1}{3}$

$y = -7x + \frac{1}{3}$

Write an equation in slope intercept form

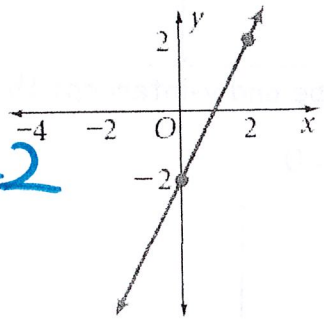
22.



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

Write an equation in slope intercept form

24.

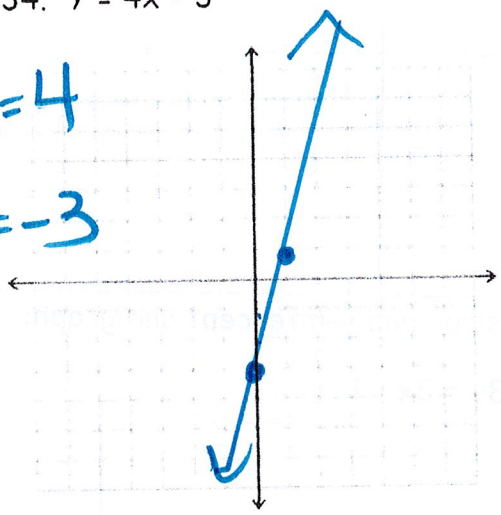


$y = 2x - 2$

Graph: 34. $Y = 4x - 3$

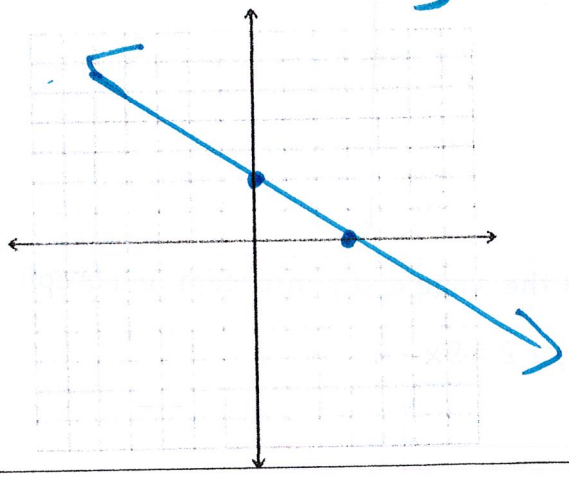
$m = 4$

$b = -3$



Graph: 37. $Y = -\frac{2}{3}x + 2$

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



Find the slope and y-intercept

46. $-2y = 6(5 - 3x)$

$-2y = 30 - 18x$

$m = 9$ $b = -15$

Find the slope and y-intercept

45. $2y - 6 = 3x$

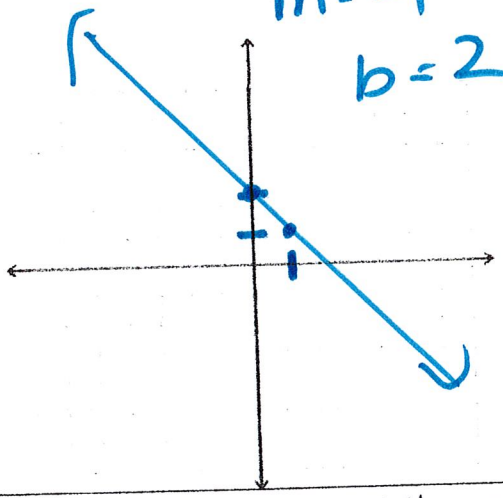
$m = \frac{3}{2}$ $b = 3$

pg294-297

33. graph: $y = -x + 2$

$m = -1$

$b = 2$



Find the slope and y-intercept

47. $y - d = cx$

$m = c$

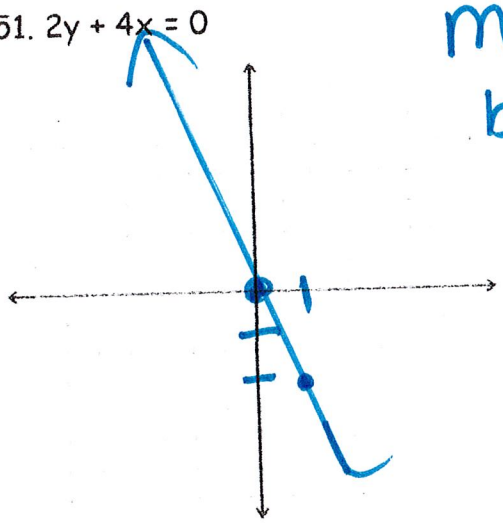
$b = d$

Find the slope and y-intercept then graph

51. $2y + 4x = 0$

$m = -2$

$b = 0$

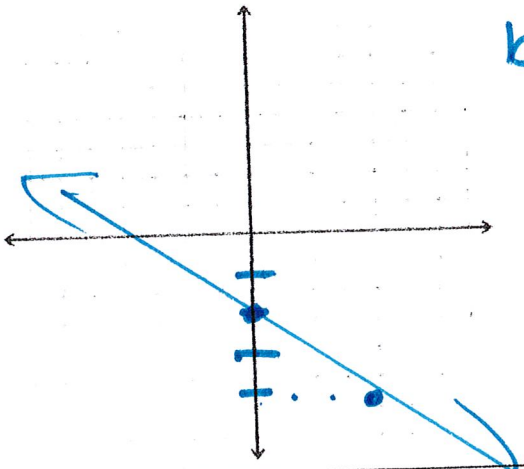


Find the slope and y-intercept then graph

52. $3y + 6 = -2x$

$m = -2/3$

$b = -2$

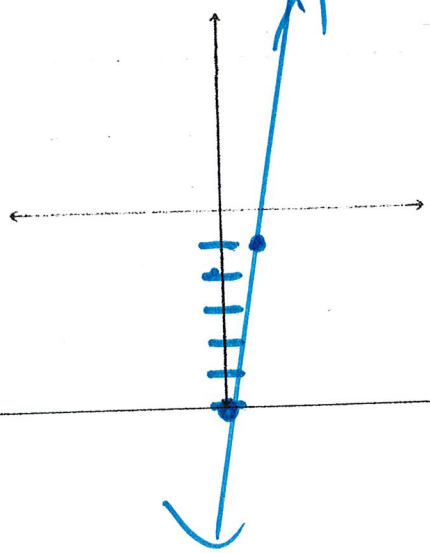


Find the slope and y-intercept and graph:

53. $y + 2 = 5x - 4$

$m = 5$

$b = -6$

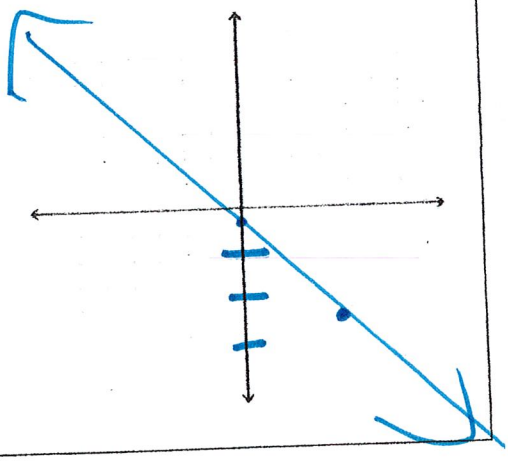


Find the slope and y-intercept and graph:

54. $4x + 3y = 2x - 1$

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

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



Key

Pgs 301-303

1. Find the x and y intercepts:
x + 2y = 18

x: 18
y: 9

4. Find the x and y intercepts:
-6x + 3y = -9

x: 1.5
y: −3

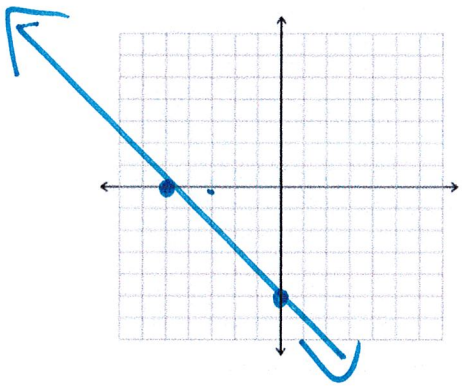
8. Find the x and y intercepts:
7x – 2y = 4

x: 4/7
y: -2

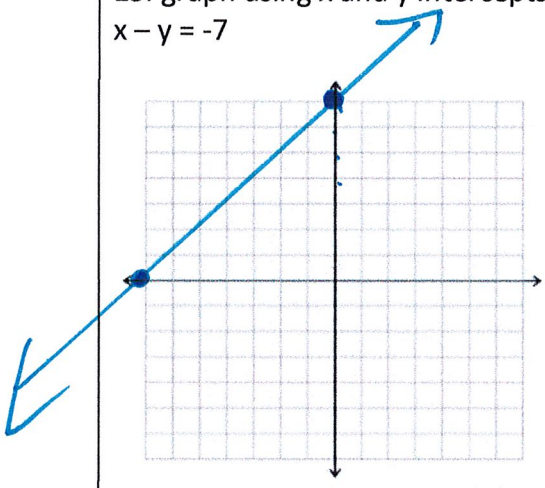
9. Find the x and y intercepts:
-8x + 10y = 40

x: −5
y: 4

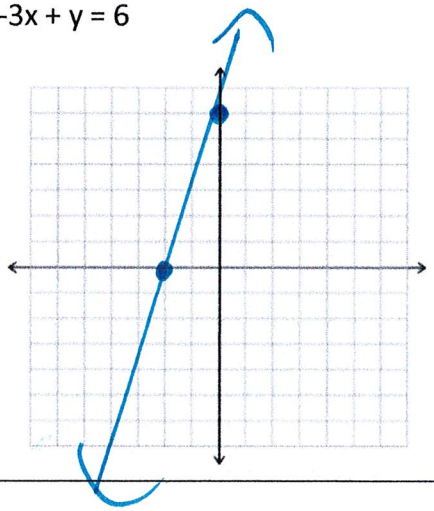
14. graph using x and y intercepts
x + y = -5



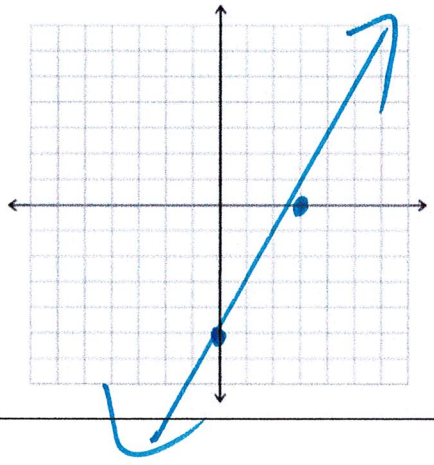
15. graph using x and y intercepts
x – y = -7



16. graph using x and y intercepts
-3x + y = 6

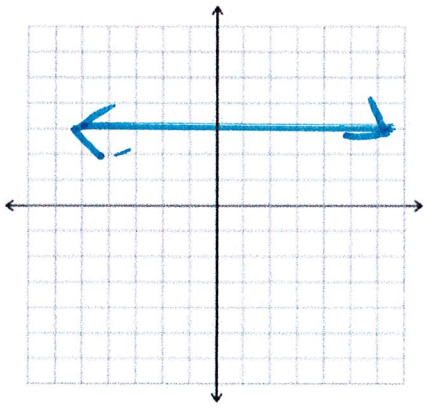


18. graph using x and y intercepts
5x – 3y = 15

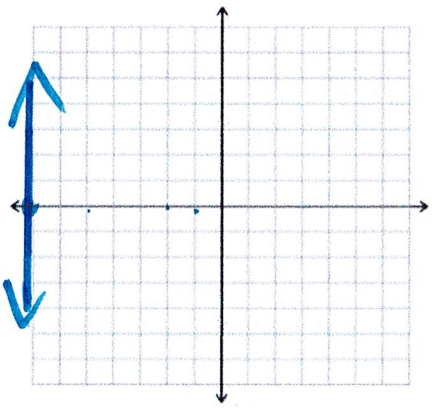


Pg 301-303

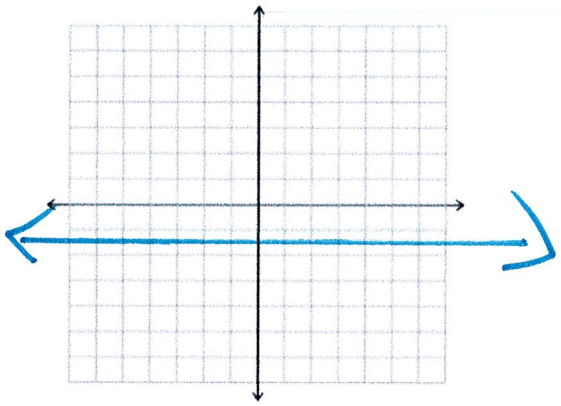
23. graph the line y = 3



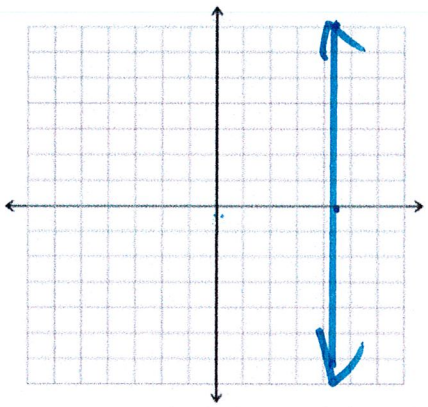
24. graph the line x = -7



25. graph the line y = -1.5



26. graph the line x = 4.5



27. write in standard form using integers:
y = 3x + 1

$3x - y = -1$

29. write in standard form using integers:
$y = \frac{1}{2}x - 3$

$x - 2y = 6$

pg 301-303

31. write in standard form using integers:
$y = -\frac{3}{4}x - 4$

$3x + 4y = -16$

33. write in standard form using integers:
$y = \frac{7}{2}x + \frac{1}{4}$

$14x - 4y = -1$

34. write in standard form using integers:
$y = -\frac{2}{5}x + \frac{1}{10}$

$4x + 10y = 1$

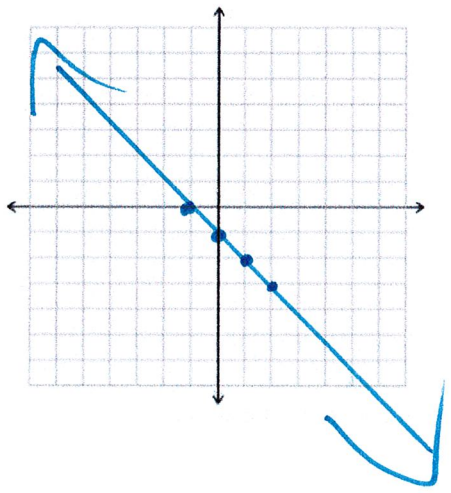
37. Larry runs at an average rate of 8 mi/h. He walks at an average rate of 3 mi/h.
a. define a variable for time spent walking. Define a variable for time spend running.

x = walk y = run

b. Write an equation in standard form to relate the times he could spend running and walking if he travels a distance of 15 miles.

$3x + 8y = 15$

45. graph: $9 + y = 8 - x$



67. What is the slope of $Ax + By = C$?

$m = -\frac{A}{B}$

Key

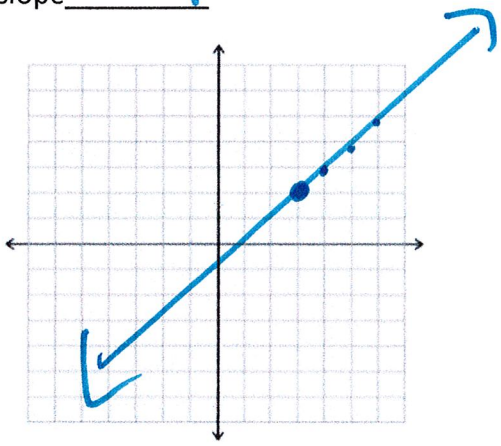
Pgs 307-309

For #1-9, identify the point and slope then graph

1. $y - 2 = (x - 3)$

point (3, 2)

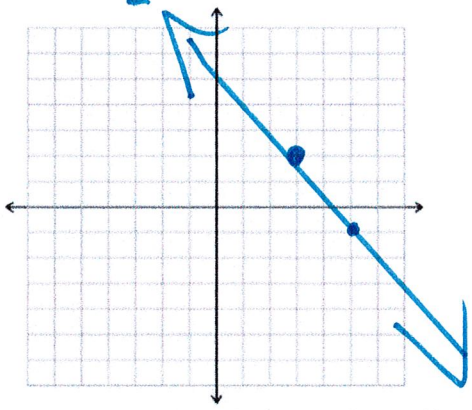
slope 1



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

point (3, 2)

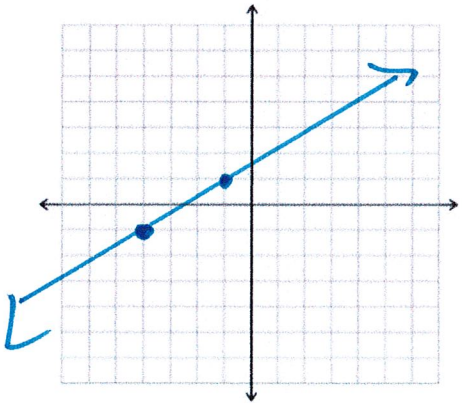
slope $-\frac{3}{2}$



$y + 1 = \frac{2}{3}(x + 4)$

point (-4, -1)

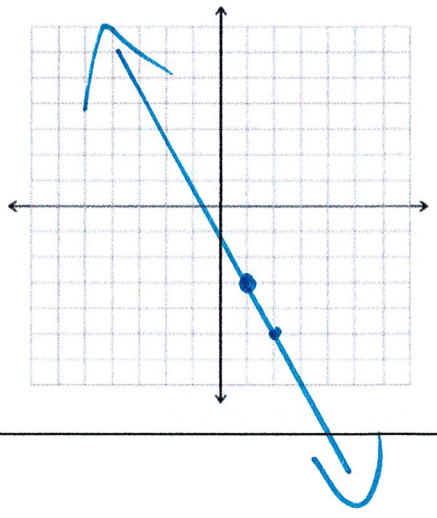
slope 2/3



$y + 3 = -2(x - 1)$

point (1, -3)

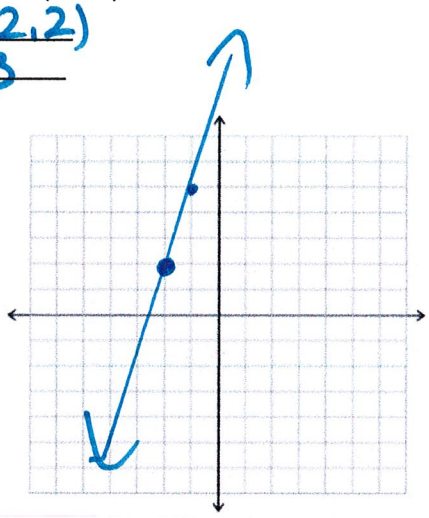
slope -2



$y - 2 = 3(x + 2)$

point $(-2, 2)$

slope 3



For #10-18 write an equation in point slope form

10. (3, -4) m = 6

$y+4=6(x-3)$

13. (-2, -7) $m = -\frac{3}{2}$

$y+7=-\frac{3}{2}(x+2)$

18. (-6, 1) $m = \frac{2}{3}$

$y-1=\frac{2}{3}(x+6)$

For #19-30, A. write an equation in point slope form; B. write the equation in slope intercept form

22. (6, -4) (-3, 5)

A) $y+4=-(x-6)$

$y-5=-(x+3)$

B) $y=-x+2$

23. (-1, -5) (-7, -6)

A) $y+5=\frac{1}{6}(x+1)$

$y+6=\frac{1}{6}(x+7)$

B) $y=\frac{1}{6}x-\frac{29}{6}$

24. (-3, -4) (3, -2)

A) $y+4=\frac{1}{3}(x+3)$

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

B) $y=\frac{1}{3}x-3$

25. (2, 7) (1, -4)

A) $y-7=11(x-2)$

$y+4=11(x-1)$

B) $y=11x-15$

pg 307-309

31. is the data in the table linear? If so, write an equation in point slope and slope intercept form.

x	y
-4	9
2	-3
5	-9
9	-17

yes $y-9=-2(x+4)$
$y=-2x+1$

32. is the data in the table linear? If so, write an equation in point slope and slope intercept form.

x	y
-10	-5
2-2	19
5	40
11	58

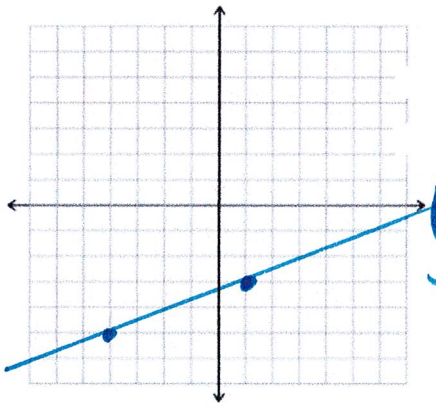
yes $y-40=3(x-5)$
$y=3x+25$

33. is the data in the table linear? If so, write an equation in point slope and slope intercept form.

Speed posted over speed limit	Fine $
10	75
12	95
15	125
19	165

no.

37. write an equation in point slope form



$y+3=\frac{2}{5}(x-1)$

For #39-53, write an equation in A. point slope form, B. standard form using integers

39. (1, 4) (-1, 1)

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

$3x-2y=-5$

40. (6, -3) (-2, -3)

$y+3=0(x-6)$
or $y+3=0$

$y=-3$

pg 307-309

45. (5, -3) (3, 4) $-\frac{7}{2}$

$y-4=-\frac{7}{2}(x-3)$

$7x+2y=29$

50. (5, 3) (4, 5)

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

$2x+y=13$

62. Write an equation in slope intercept form:
The line contains the point (1, 3) and has the same y-intercept as $y-5=2(x-1)$

$y=3$

65. what is the slope of the line
$y-8=\frac{1}{2}(x+2)$

$m=\frac{1}{2}$

66. Find the y-intercept of the line $y+3=4(x+3)$

$b=9$

67. what is the x-intercept of the line $y=3x-7$

$\frac{7}{3}$

68. when $y-1=-\frac{4}{5}(x-3)$ Is written in standard form using integers, what is the coefficient of x?

4

69. When $y=-\frac{5}{2}x+\frac{2}{3}$ is written in standard form using integers, what is the coefficient of y?

6

Key

Pgs 314-317

For #1-6, find the slope of the line parallel to the graph of each equation

1. $y = \frac{1}{2}x + 2.3$ $\frac{1}{2}$	**2.** $y = -\frac{2}{3}x - 1$ $-2/3$	**3.** $y = x$ 1
4. $y = 6$ 0	5. $3x + 4y = 12$ $-\frac{3}{4}$	6. $7x - y = 5$ 7

Are the graphs of the lines parallel? Explain

7. $y = 4x + 12$ $-4x + 3y = 21$ no, different slopes	8. $y = -\frac{3}{2}x + 2$ $3x + 2y = 8$ yes, same slope diff y-int.	9. $y = \frac{1}{3}x + 3$ $x - 3y = 6$ yes same slope, diff. y-int.
10. $y = -\frac{1}{2}x + \frac{3}{2}$ $5x - 10y = 15$ no, diff. slopes.	11. $y = -3x$ $21x + 7y = 14$ yes same slope diff. y-int	12. $y = \frac{3}{4}x - 2$ $-3x + 4y = 8$ yes same slope diff. y-int

For # 13-18 write an equation for a line that is parallel to the given line through the given point

13. $y = 6x - 2$ (0, 0) $y = 6x$	14. $y = -3x$ (3, 0) $y = -3x + 9$	15. $y = -2x + 3$ (-3, 5) $y = -2x - 1$

314-317

16. $y = -\frac{7}{2}x + 6$ (-4, -6)	17. $y = 0.5x - 8$ (8, -5)	18. $y = -\frac{2}{3}x + 12$ (5, -3)
$y = -\frac{7}{2}x - 20$	$y = 0.5x - 9$	$y = -\frac{2}{3}x + \frac{1}{3}$

74. which equation has as its graph a line parallel to the graph $-2x - 4y = 3$?

F. $y = -\frac{1}{2}x + 5$
G. $y = 2x - 6$
H. $y = -2x + 4$
I. $y = \frac{1}{2}x - 2$

76. suppose the line through (x, 6) and (1,2) is parallel to the graph of $2x + y = 3$. Find the value of x. Show your work.

$x = -1$

Compare the equation in column A with the equation in column B. Choose the best answer.

A. The quantity in column A is greater
B. The quantity in column b is greater
C. The two quantities are equal
D. The relationship cannot be determined from the information given

	Column A	Column B
77. C	The slope of $y = -5x - 1$	The slope of $10x + 2y = -2$ $m = -5$
78. A	The product of the slopes of $y = -\frac{4}{3}x + 5$ and $3x + 4y = 12$ 1 $-\frac{4}{3}(-\frac{3}{4}) = 1$	-1
79. B	The slope of $6y = 3x + 10$ $m = \frac{1}{2}$	2

Key

Pgs 314-317 day 2

For #19-24, find the slope of the line perpendicular to the graph of each equation

19. y = 2x $\perp m = -1/2$	**20. y = -3x** $\perp m = \frac{1}{3}$	**21. $y = \frac{7}{5}x - 2$** $\perp m = -5/7$
22. $y = -\frac{x}{5} - 7$ $\perp m = 5$	23. 2x + 3y = 5 $\perp m = \frac{3}{2}$	**24. y = -8** $\perp m = \emptyset$

For #25-30 write an equation for a line that is perpendicular to the given line through the given point.

25. y = 2x + 7 (0, 0) $y = -\frac{1}{2}x$	26. y = x – 3 (4, 6) $y = -x + 10$	27. $y = -\frac{1}{3}x + 2$ (4, 2) $y = 3x - 10$
28. 3x + 5y = 7 (-1, 2) $y = \frac{5}{3}x + \frac{11}{3}$	29. -10x + 8y = 3 (15, 12) $y = -\frac{4}{5}x + 24$	30. 4x – 2y = 9 (8, -2) $y = -\frac{1}{2}x + 2$

Tell whether the lines are parallel, perpendicular, or neither. Explain.

32. $y = 4x + \frac{3}{4}$ $y = -\frac{1}{4}x + 4$ perp. $m = 4$ $m = -\frac{1}{4}$	**33. $y = \frac{2}{3}x - 6$ $y = \frac{2}{3}x + 6$** parallel $m = 2/3$ $m = 2/3$	**34. y = -x + 5 y = x + 5** perp. $m = -1$ $m = 1$

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35. $y = 5x$ $\quad y = -5x + 7$

neither

36. $y = \frac{x}{3} - 4$ $\quad y = \frac{1}{3}x + 2$

parallel $m = 1/3$ $\quad m = 1/3$

37. $x = 2$ $\quad y = 9$

perp. $m = \emptyset$ $\quad m = 0$

38. $2x + y = 2$ $\quad 2x + y = 5$

parallel

39. $3x - 5y = 3$ $\quad -5x + 3y = 8$

neither

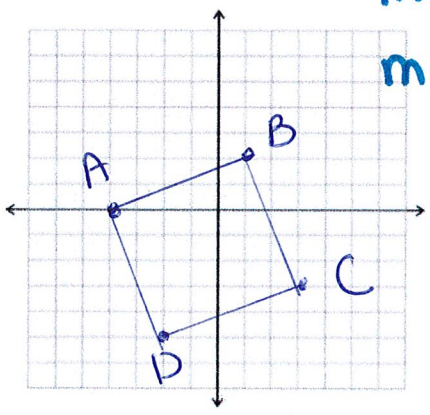
40. $4x - 3y = 36$ $\quad 3x + 4y = 20$

perpendicular

41. $2x - 5y = 15$ $\quad 2x + 5y = 10$

neither

63. use slopes to determine if the figure drawn is a rectangle.

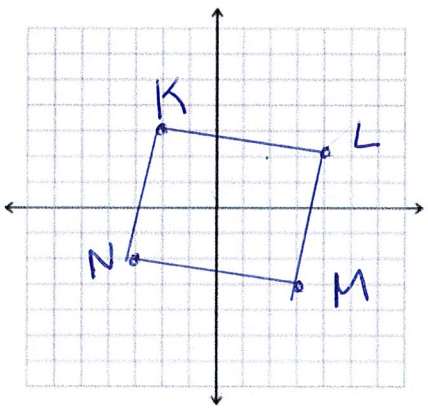


$m\overline{AB} = \frac{2}{5}$

$m\overline{BC} = -\frac{5}{2}$

perp

64. use slopes to determine if the figure drawn is a rectangle.



$m\overline{KL} = -\frac{1}{6}$

$m\overline{LM} = 5$

neither

68. determine if the lines are parallel, perpendicular, or neither.

$ax - by = c$ $\quad -ax + by = d$

$-by = -ax + c$ $\quad by = ax + d$

$y = \frac{a}{b}x - \frac{c}{b}$ $\quad y = \frac{a}{b}x + \frac{d}{b}$

parallel

same slope: $\frac{a}{b}$

diff. y-int

69. determine if the lines are parallel, perpendicular, or neither

$ax + by = c$ $\quad bx - ay = d$

$by = -ax + c$ $\quad -ay = -bx + d$

$y = -\frac{a}{b}x + \frac{c}{b}$ $\quad y = \frac{b}{a}x - \frac{d}{a}$

perpendicular - slopes are opp. reciprocals.