Name _____ Date _____

8A; Algebra 1 Period _____

Review for Graphing Test

1) What is the slope of the graph $y = -2x + 5$?	2) Solve the equation for y in terms of x: $3x - 2y = 12$.
3) Write an equation of the line whose slope is -1 and whose y-intercept is 7.	4) Write an equation that is parallel to the line $y = \frac{3}{5}x + 7$.
5) Write an equation that is perpendicular to the line $y = \frac{3}{5}x + 7$.	6) What is the slope of the line that passes through the points (4,5) and (6,1)?
7) If the point (d,3) lies on the graph of $3x - y = 9$, find the value of d.	8) Which point does *not* lie on the graph of $3x - y = 9$? (a) (1,-6) (b) (2,3) (c) (3,0) (d) (0,-9)
9) Which ordered pair is in the solution set of $y < 2x - 4$? (a) (0,-5) (b) (2,0) (c) (3,3) (d) (0,2)	10) Which equation has a graph parallel to the graph of $y = 5x - 2$? (a) $y = -5x$ (b) $y = 5x + 3$ (c) $y = -2x$ (d) $y = 2x - 5$

11) The graph of $2x + y = 8$ intersect the y-axis at: (a) (0,8) (b) (8,0) (c) (0,4) (d) (4,0)	12) What is the slope of the graph of the equation $y = 4$? (a) 1 (b) 0 (c) -4 (d) 4
13) In which ordered pair is the abscissa 3 more than the ordinate? (a) (1,4) (b) (1,3) (c) (3,1) (d) (4,1)	14) What is the slope of the line whose equation is $3x - 4y - 16 = 0$? (a) $\frac{3}{4}$ (b) $\frac{4}{3}$ (c) 3 (d) -4
15) What is the equation of a line passing through the points (1,2) and (-2,5)? (a) $y = x + 3$ (b) $y = -x + 3$ (c) $y = \frac{7}{3}x + 1$ (d) $y = 3x + 3$	16) Which of the following is the equation of a line with a slope of 0 and passing through the point (4,6)? (a) $x = 4$ (b) $x = -4$ (c) $y = 6$ (d) $y = -6$
17) What is the slope of a line passing through the points (3,5) and (-2,6)? (a) $-\frac{1}{5}$ (b) -1 (c) -5 (d) $\frac{11}{5}$	18) A horizontal line has a slope of? (a) 0 (b) 1 (c) -1 (d) undefined
19) What are the coordinates of the y-intercept of the equation $y - 3x = 5$? (a) (0,3) (b) (0,-3) (c) (0,5) (d) (0,-5)	20) The slope of a vertical line is: (a) 0 (b) 1 (c) -1 (d) undefined

21) Find the slope of a line perpendicular to the line whose equation is $3y + 2x = 6$

(a) 2
(b) -2
(c) $-\frac{3}{2}$
(d) $\frac{3}{2}$

22) Find the equation of the line parallel to the line whose equation is $y = -3x + 5$

(a) $y = -3x - 5$
(b) $y = 3x - 5$
(c) $y = \frac{1}{3}x - 5$
(d) $y = 3x - \frac{1}{5}$

23) Write an equation for a line passing through the points (c,2b) and (c,3b).

(a) $y = cx - b$
(b) $y = -cx + b$
(c) $x = 2b$
(d) $x = c$

24) Which is the equation of a line whose slope is undefined?

(a) $x = -5$
(b) $y = 7$
(c) $x = 7y$
(d) $x + y = 0$

25) Which of these equations represents a line parallel to the line $2x + y = 6$?

(a) $y = 2x + 3$
(b) $y - 2x = 4$
(c) $2x - y = 8$
(d) $y = -2x + 1$

26) Find the equation of the line that has a slope of -2 and a y-intercept of -9.

(a) $y = 2x - 9$
(b) $y = -2x - 9$
(c) $y = 2x + 9$
(d) $y = -2x + 9$

27) What is the domain of the following relation?
{(0,2), (4,10), (6,3), (4,8)}

28) Evaluate f(10): $f(x) = -2x^2 + 3x - 5$

29) Which of the following represents the Equation in point-slope form for a line thar has a slope of 5 and passes through the point (-6,4)?

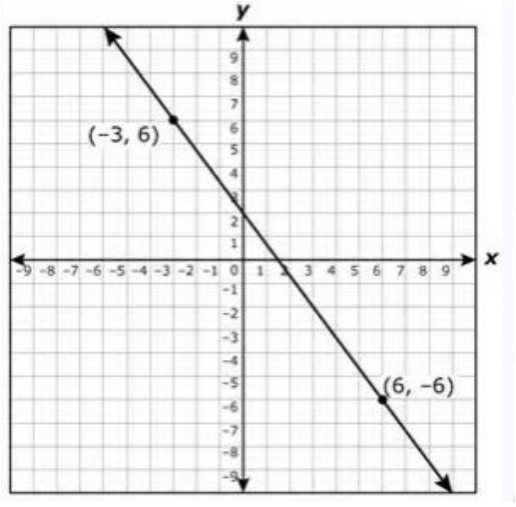
(a) $y + 4 = 5(x - 6)$

(b) $y - 4 = 5(x + 6)$

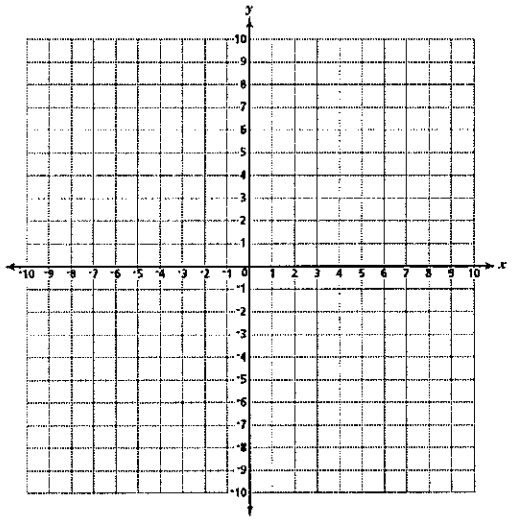
(c) $y + 6 = 5(x - 4)$

(d) $y - 6 = 5(x + 4)$

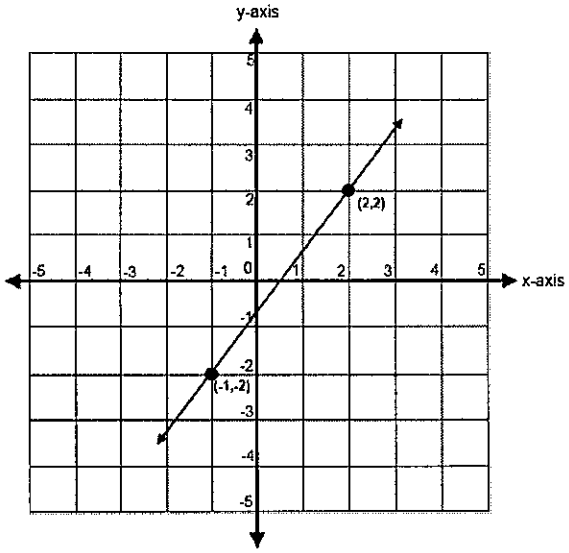
30)What is the equation of the line graphed below?



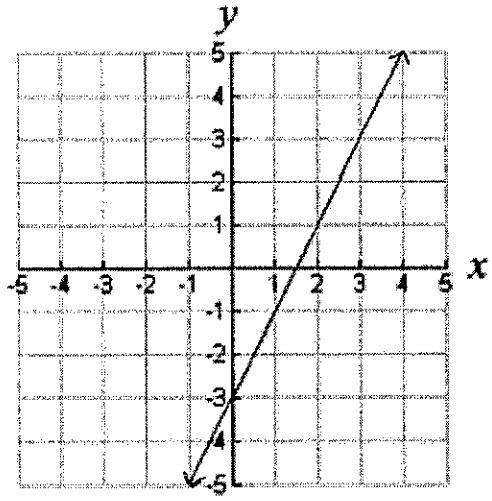
31) Find the distance between the following pair of points. Round your answer to the nearest tenth.
(-5,4) and (7,7)



32) What is the slope of the line shown in the figure below?



33) What is the equation of the line graphed below?



34) Give the domain and range of the following relation. Tell whether the relation is a function. Explain why or why not.

X	Y
7	5
5	3
3	5
2	6

Domain_____

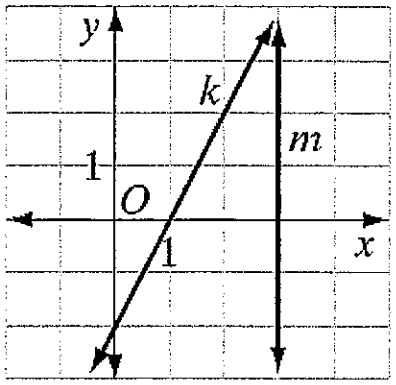
Range_____

Function_____

Reason_____

_____

In 35-38, refer to the coordinate graph.



35) What is the slope of line *k*?

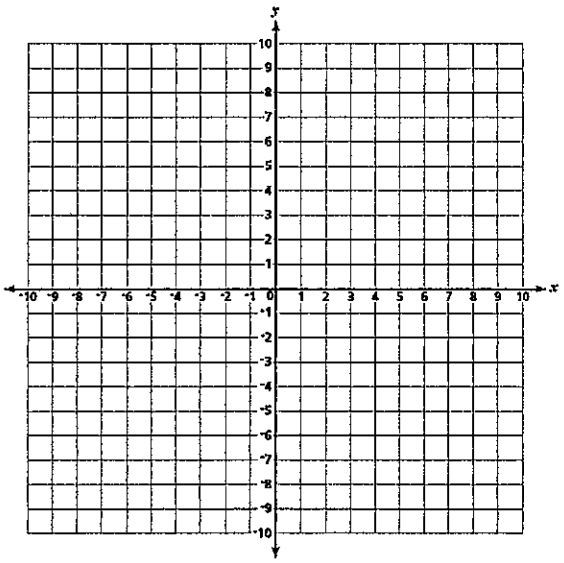
36) What is the y-intercept of line *k*?

37) What is the equation of line *m*?

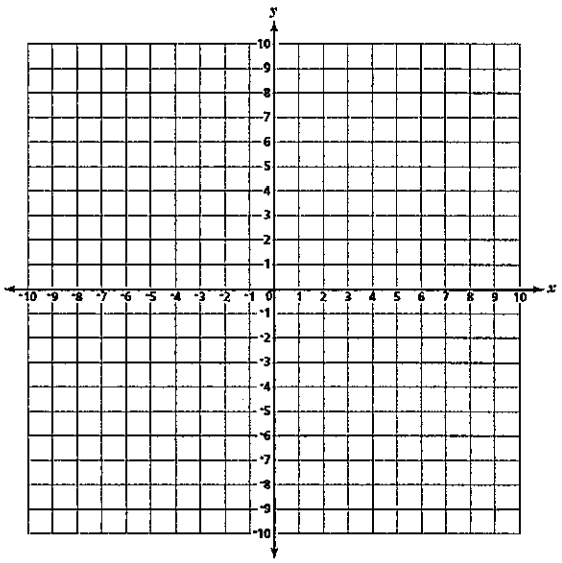
38) Write an equation of the line that is parallel to line *k* and passes through the origin.

39) Graph the following on the provided coordinate planes:

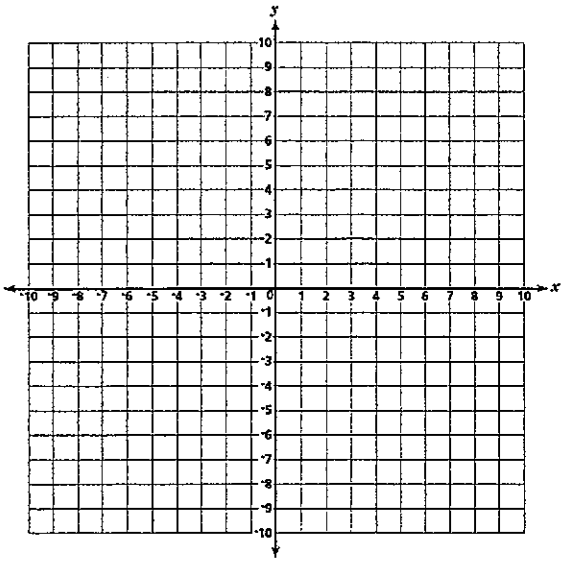
a) $y = -x + 2$



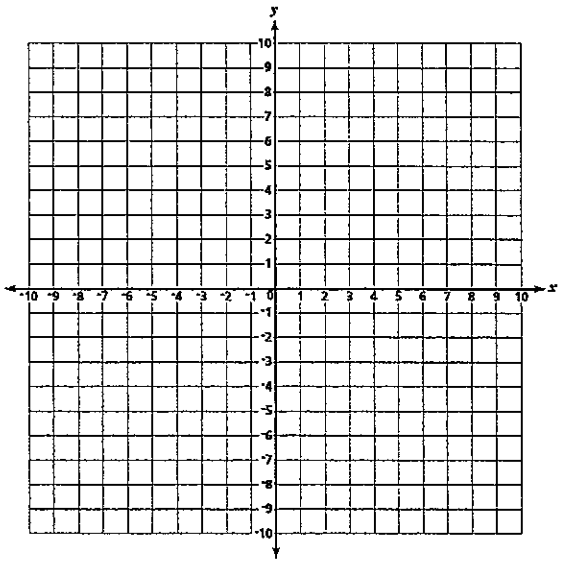
b) $y = 3$



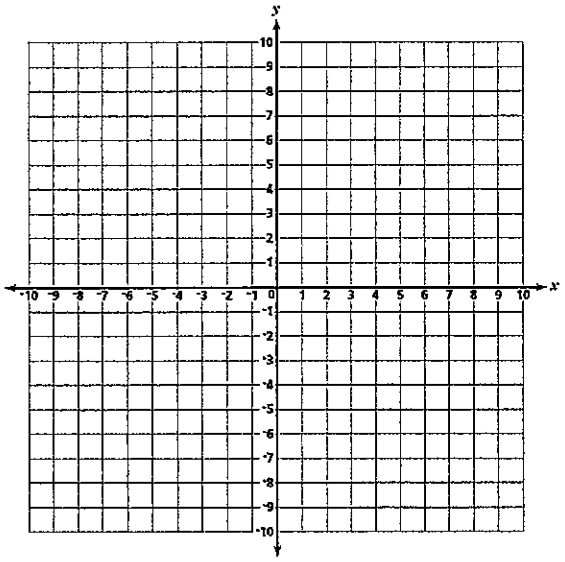
c) $y = \frac{2}{3}x$



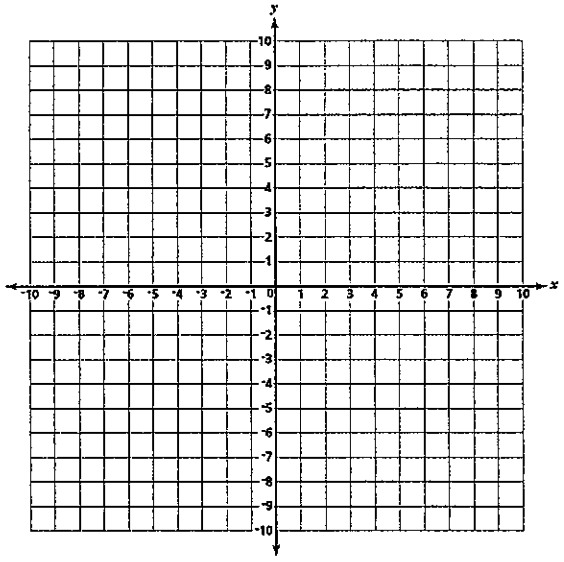
d) $x + 2y = 8$



e) $y - x > 2$



f) $3x - y \geq 4$

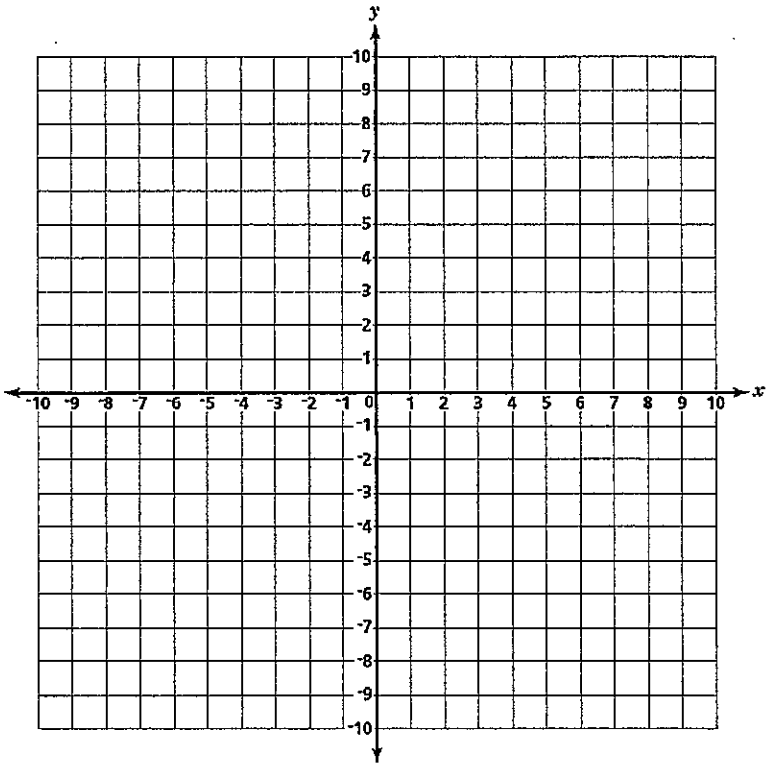


40) On the provided coordinate planes solve each system of equations graphically and check

a)

$x + y = 6$

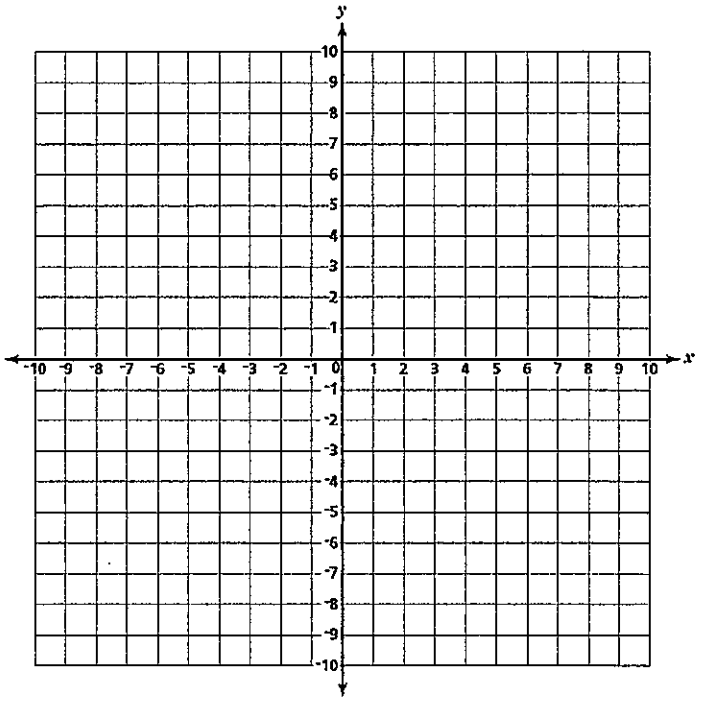
$y = 2x - 6$



b)

$y = -x$

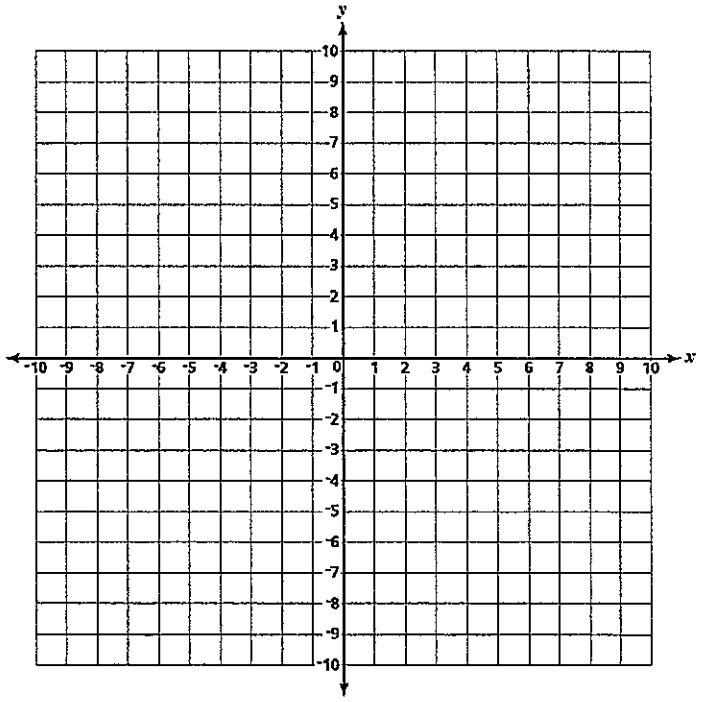
$2x + y = 3$



c)

$2y = x + 4$

$x - y + 4 = 0$

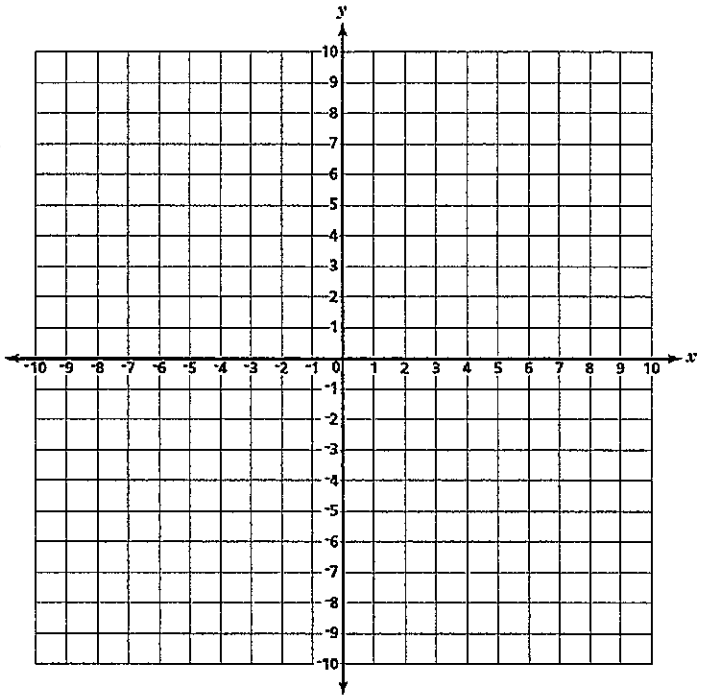


41) On the provided coordinate planes graph the system of inequalities and label the solution set S.

a)

$y > 2x - 3$

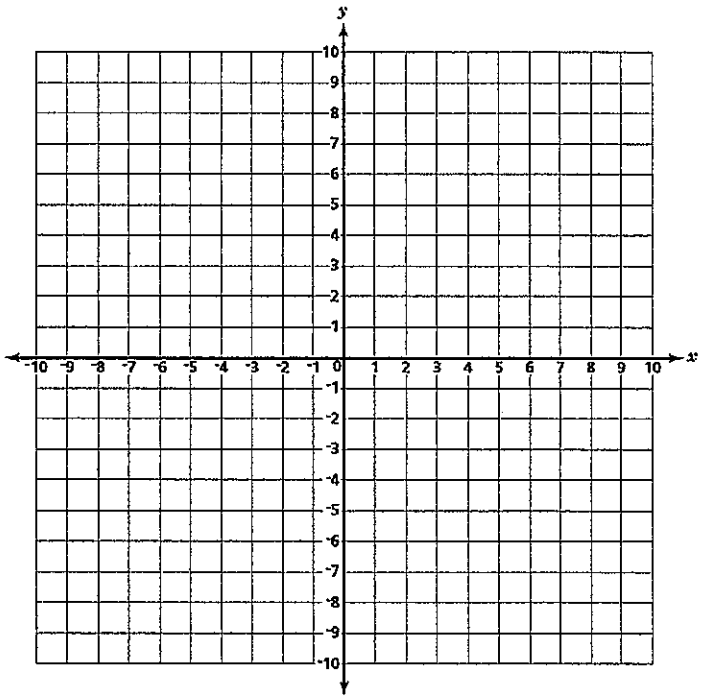
$y \leq 5 - x$



b)

$y \leq \frac{1}{2}x$

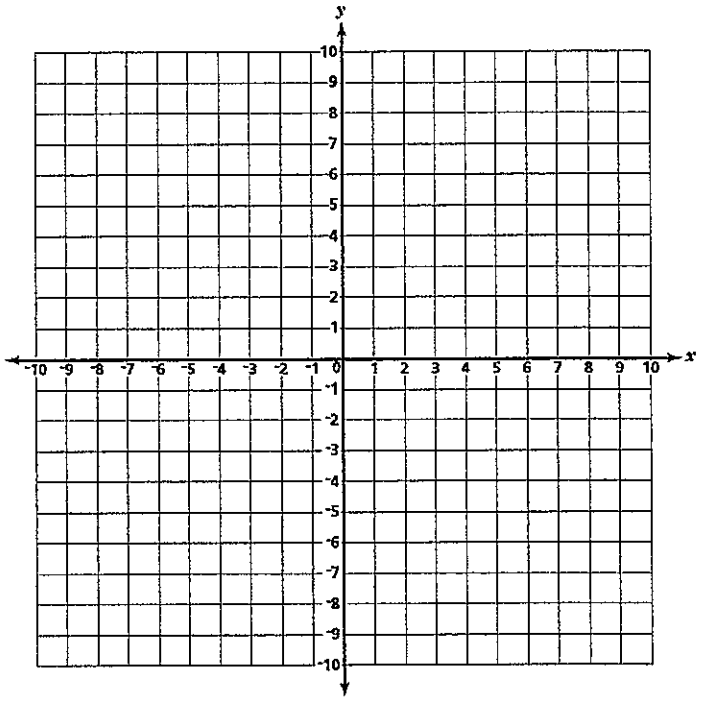
$x \geq -4$



c)

$2x + y < 4$

$x - y < -2$



42) Write an equation for a line that is parallel to the line $2y - 8x = -4$

43) What is the slope and the y-intercept of the following equation?

$2x - y = 6$?

44) If the slope of a line is -4 and the y-intercept is 1, which of the following can be an equation of the line?

(a) $y - 4x = 1$
(b) $x + 4y = 1$
(c) $y + 4x = 1$
(d) $x - 4y = 1$

45) Which ordered pair is in the solution set of $x - y = 7$?

(a) (-7,0)
(b) (0,7)
(c) (-1,-8)
(d) (-1,8)

46) Which equation represents a line parallel to the line y = 2x - 5?

(a) y = 5x - 2
(b) y = 2x + 5
(c) $y = -\frac{1}{2}x - 5$
(d) y = -2x - 5

47) If the line joining (3x, x+1) and (5,-2) has a slope of 4, then what is the value of x?

(a) $\frac{11}{23}$
(b) $\frac{23}{11}$
(c) $-\frac{1}{22}$
(d) -22

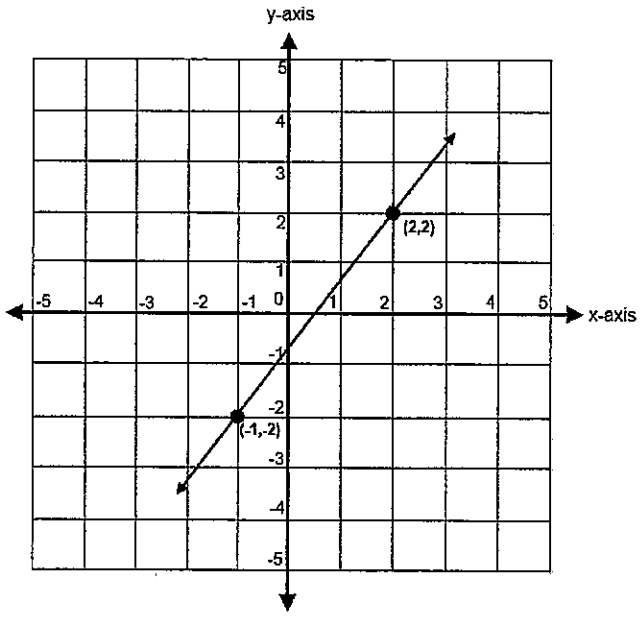
48) Write an equation of the line whose slope is $\frac{1}{5}$ and which passes through the point (10,-1)

49) A straight line with slope 5 contains the points (1,2) and (3,K). Find the value of K.

50) Which properties best describe the coordinate graphs of two distinct parallel lines?

(a) same slopes and different intercepts
(b) same slopes and same intercepts
(c) different slopes and same intercepts
(d) different slopes and different intercepts

51) What is the slope of the line graphed below?



52) What is the slope of the linear equation $5y - 10x = -15$

(a) -10
(b) 2
(c) 10
(d) -15

53) What is an equation for the line that passes through the coordinates (2,0) and (0,3)?

(a) $y = -\frac{2}{3}x - 2$
(b) $y = \frac{3}{2}x - 3$
(c) $y = -\frac{2}{3}x + 2$
(d) $y = -\frac{3}{2}x + 3$

54) If a line is horizontal, its slope is

(a) negative
(b) 1
(c) undefined
(d) 0

55) What is the slope of any line perpendicular to the lines $5x - 6y = 30$?

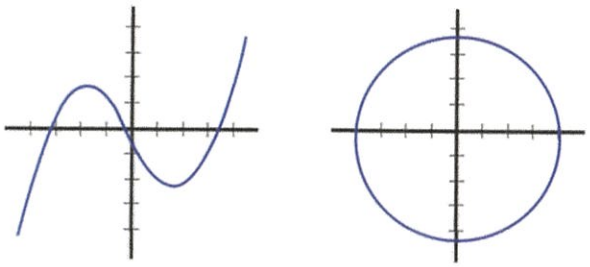
(a) 30
(b) $\frac{6}{5}$
(c) -30
(d) $-\frac{6}{5}$

56) What is the equation of the line having a slope of 0 and passing through the point (8,3)?

(a) $x = 8$
(b) $y = 8$
(c) $x = 3$
(d) $y = 3$

57) What is the range of the following relation: {(2,0), (3,3), (6,-2), (4,-6), (8,3)}

58) Are the following graphs functions?



59) Are the following mappings functions?

Map A

Input	Output
10	15
20	25
30	35
40	45

Map B

Input	Output
2	20
4	30
3	40

Name Key
8A; Algebra 1

Date _____
Period _____

Review for Graphing Test

1) What is the slope of the graph $y = -2x + 5$?

slope = -2

2) Solve the equation for y in terms of x: $3x - 2y = 12$.

$-3x \quad -3x$

$\frac{-2y}{-2} = \frac{-3x}{-2} + \frac{12}{-2}$ $\quad y = \frac{3}{2}x - 6$

3) Write an equation of the line whose slope is -1 and whose y-intercept is 7.

m, b

$y = -x + 7$ $\quad y = mx + b$

4) Write an equation that is parallel to the line $y = \frac{3}{5}x + 7$.

$y = \frac{3}{5}x + 2$

same slope, different y-intercepts

5) Write an equation that is perpendicular to the line $y = \frac{3}{5}x + 7$.

- Negative reciprocal slope
- same or diff y-intercept

$y = -\frac{5}{3}x - 2$

6) What is the slope of the line that passes through the points (4,5) and (6,1)?

$(x_1, y_1) \quad (x_2, y_2)$

$m = \frac{y_2 - y_1}{x_2 - x_1}$ $\quad m = \frac{1-5}{6-4}$ $\quad m = \frac{-4}{2}$ $\quad m = -2$

7) If the point (d,3) lies on the graph of $3x - y = 9$, find the value of d.

$3x - y = 9$

$3(d) - (3) = 9$

$+3 \quad +3$

$\frac{3d}{3} = \frac{12}{3}$

$d = 4$

8) Which point does *not* lie on the graph of $3x - y = 9$?

(a) (1,-6) $\quad 3(1) - (-6) = 9 \quad 3 + 6 = 9 \quad 9 = 9$

(b) (2,3) $\quad 3(2) - 3 = 9 \quad 6 - 3 = 9 \quad 3 \neq 9$

(c) (3,0)

(d) (0,-9)

9) Which ordered pair is in the solution set of $y < 2x - 4$?

x	y	$y < 2x - 4$	
(a) 0	-5	$-5 < 2(0) - 4$	satisfies
(b) 2	0	$-5 < 0 - 4$	
(c) 3	3	$-5 < -4$ ✓	
) 0	2		

guess & check until you get a pair that is correct

10) Which equation has a graph parallel to the graph of $y = 5x - 2$?

same slope

(a) $y = -5x$

(b) $y = 5x + 3$

(c) $y = -2x$

(d) $y = 2x - 5$

11) The graph of $2x + y = 8$ intersect the y-axis at:

$-2x \quad -2x$

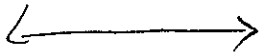
$y = -2x + 8$

(a) (0,8)
(b) (8,0)
(c) (0,4)
(d) (4,0)

(0,8) asking for the y-intercept "b"

12) What is the slope of the graph of the equation $y = 4$?

(a) 1
(b) 0
(c) -4
(d) 4



zero

13) In which ordered pair is the abscissa 3 more than the ordinate?

x
y

(a) (1,4)
(b) (1,3)
(c) (3,1)
(d) (4,1)

14) What is the slope of the line whose equation is $3x - 4y - 16 = 0$?

(a) $\frac{3}{4}$
(b) $\frac{4}{3}$
(c) 3
(d) -4

$3x - 4y - 16 = 0$

$-3x \quad +16 \quad -3x + 16$

$\frac{-4y}{-4} = \frac{-3x + 16}{-4} \quad -4$

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

15) What is the equation of a line passing through the points (1,2) and (-2,5)?

(a) $y = x + 3$
(b) $y = -x + 3$
(c) $y = \frac{7}{3}x + 1$
(d) $y = 3x + 3$

$m = -1$

$b = 3$

$(1,2)(-2,5)$

$(x_1, y_1)(x_2, y_2)$

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5-2}{-2-1} = \frac{3}{-3} = -1$

$m = -1$

$(1,2)\ m = -1$

$y = mx + b$

$2 = -1(1) + b$

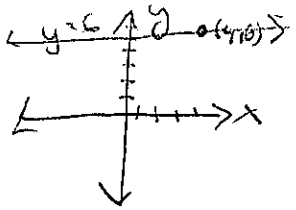
$2 = -1 + b$

$+1 \quad +1$

$3 = b$

16) Which of the following is the equation of a line with a slope of 0 and passing through the point (4,6)?

(a) $x = 4$
(b) $x = -4$
(c) $y = 6$
(d) $y = -6$



$y = mx + b$

$m = 0$

$b = 6$

$y = 6$

$y = mx + b$

$6 = (0)(4) + b$

$6 = 0 + b$

$6 = b$

17) What is the slope of a line passing through the points (3,5) and (-2,6)?

$x_1\ y_1 \quad x_2\ y_2$

(a) $-\frac{1}{5}$
(b) -1
(c) -5
(d) $\frac{11}{5}$

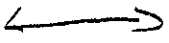
$m = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \frac{6-5}{-2-3}$

$m = \frac{1}{-5} = -\frac{1}{5}$

18) A horizontal line has a slope of?

(a) 0
(b) 1
(c) -1
(d) undefined



& equation is always $y = \#$ B/C the line intersects the y-axis & is parallel to the x-axis.

19) What are the coordinates of the y-intercept of the equation $y - 3x = 5$?

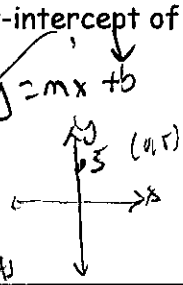
$+3x \quad +3x$

$y = 3x + 5$

y-int

(a) (0,3)
(b) (0,-3)
(c) (0,5)
(d) (0,-5)

$y = mx + b$



intersects the y-axis

20) The slope of a vertical line is:

(a) 0
(b) 1
(c) -1
(d) undefined

or No slope

21) Find the slope of a line perpendicular to the line whose equation is $3y + 2x = 6$

(a) 2
(b) -2
(c) $-\frac{3}{2}$
(d) $\frac{3}{2}$

Neg. recip

$-2x \quad -2x$

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

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

22) Find the equation of the line parallel to the line whose equation is $y = -3x + 5$

(a) $y = -3x - 5$
(b) $y = 3x - 5$
(c) $y = \frac{1}{3}x - 5$
(d) $y = 3x - \frac{1}{5}$

Same type

↓

- Same slope,
- must be different y-intercept

23) Write an equation for a line passing through the points (c,2b) and (c,3b).

$x_1\ y_1 \quad x_2\ y_2$

(a) ~~$y = ex - b$~~
(b) ~~$y = cx + b$~~
(c) $x = 2b$
(d) $x = c$ B/C both x-values are c

$m = \frac{y_2 - y_1}{x_2 - x_1}$ $\quad m = \frac{3b-2b}{c-c}$ $\quad m = \frac{b}{0}$ → undefined

vertical line $x =$

24) Which is the equation of a line whose slope is undefined? Vertical

(a) $x = -5$
(b) $y = 7$
(c) $x = 7y$
(d) $x + y = 0$

The equation is always $x = \#$ B/C the line intersects the "x-axis"

it is parallel to the y-axis

25) Which of these equations represents a line parallel to the line $2x + y = 6$?

same slope

(a) $y = 2x + 3$
(b) $y - 2x = 4$
$2x - y = 8$
(d) $y = -2x + 1$

$-2x \quad -2x$

$y = -2x + 6$

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

26) Find the equation of the line that has a slope of -2 and a y-intercept of -9.

(a) $y = 2x - 9$
(b) $y = -2x - 9$
(c) $y = 2x + 9$
(d) $y = -2x + 9$

$y = -2x - 9$

27) What is the domain of the following relation?
{(0,2), (4,10), (6,3), (4,8)}

$\{0, 4, 6\}$

→ x-values, numerical order, don't list any repeats

28) Evaluate f(10): $f(x) = -2x^2 + 3x - 5$

$f(10) = -2(10)^2 + 3(10) - 5$
$f(10) = -2(100) + 3(10) - 5$
$f(10) = -200 + 30 - 5$
$f(10) = -175$

29) Which of the following represents the equation in point-slope form for a line that has a slope of 5 and passes through the point (-6,4)?

m → same sign

$x_1\ y_1$

(A) $y + 4 = 5(x - 6)$
(B) $y - 4 = 5(x + 6)$
(C) $y + 6 = 5(x - 4)$
(D) $y - 6 = 5(x + 4)$

$y - y_1 = m(x - x_1)$
$y - 4 = 5(x - (-6))$

opposite signs

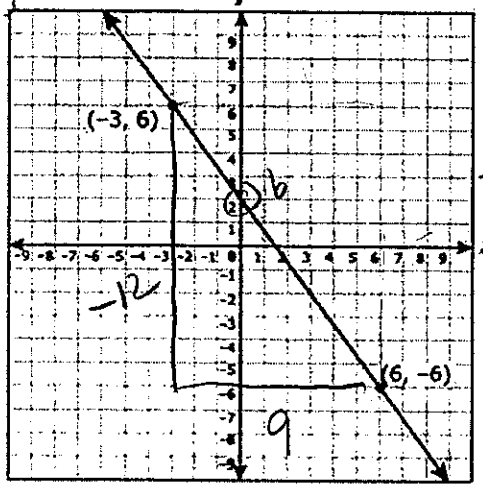
Check $y - 4 = 5(x + 6)$
$y - 4 = 5x + 30$
$+4 \quad +4$
$y = 5x + 34$

put into y= on calc, graph, look for (-6,4)

30) What is the equation of the line graphed below?

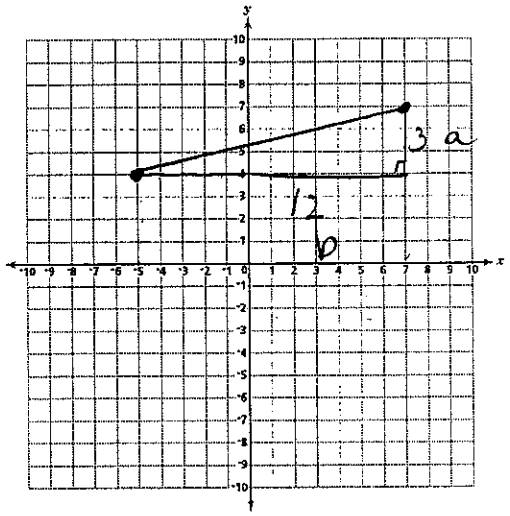
$y = mx + b$
$m = -\frac{4}{3}$
$b = 2$

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



$\frac{\text{rise}}{\text{run}} = \frac{-12}{9} = -\frac{4}{3}$

31) Find the distance between the following pair of points. Round your answer to the nearest tenth.
(-5,4) and (7,7)



$a^2 + b^2 = c^2$

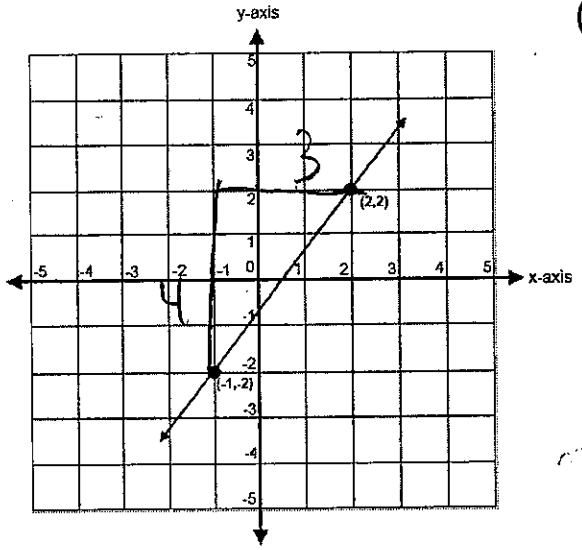
$3^2 + 12^2 = c^2$

$9 + 144 = c^2$

$\sqrt{153} = \sqrt{c^2}$

$c = 12.4$

32) What is the slope of the line shown in the figure below?



$\frac{\text{rise}}{\text{run}} = \frac{4}{3}$ $\boxed{\frac{4}{3}}$

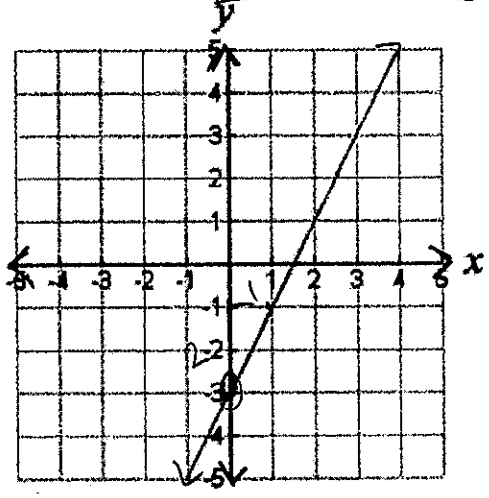
33) What is the equation of the line graphed below?

$y = mx + b$

$m = 2$

$b = -3$

$y = 2x - 3$

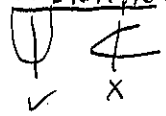


$m = \frac{\text{rise}}{\text{run}}$

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

34) Give the domain and range of the following relation. Tell whether the relation is a function. Explain why or why not.

If given pic:



✓ X

It must pass the vertical line test (only goes through graph 1 time)

X	Y
7	5
5	3
3	5
2	6

Function:
* X-values can't repeat
y-values can

x-value

Domain $\{2, 3, 5, 7\}$

Range $\{3, 5, 6\}$

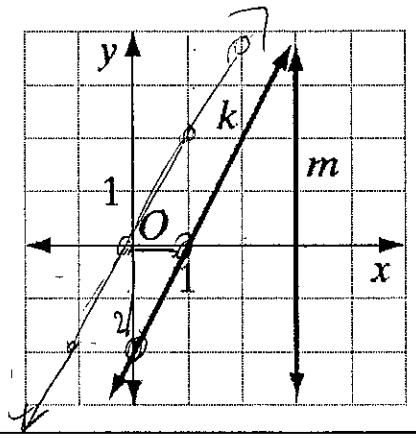
y-value

* numerical order
* don't list any repeats
* must use french braces { }

Function Yes

Reason B/C each element of the domain corresponds to one & only one element of the range

In 35-38, refer to the coordinate graph.



What is the slope of line *k*? 2

36) What is the y-intercept of line *k*? -2

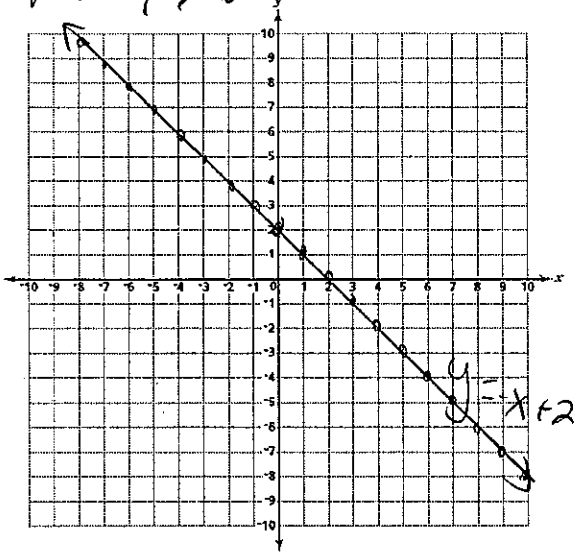
37) What is the equation of line *m*? $x = 3$

38) Write an equation of the line that is parallel to line *k* and passes through the origin. $y = 2x$

39) Graph the following on the provided coordinate planes:

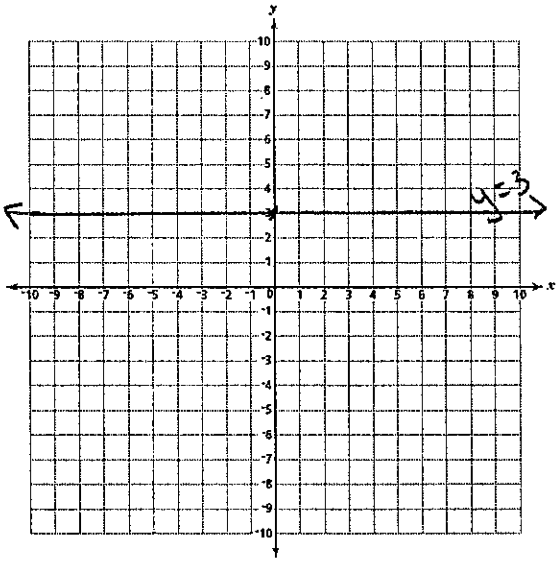
a) $y = -x + 2$

m: $-\frac{1}{1}$ ↓ → B: 2



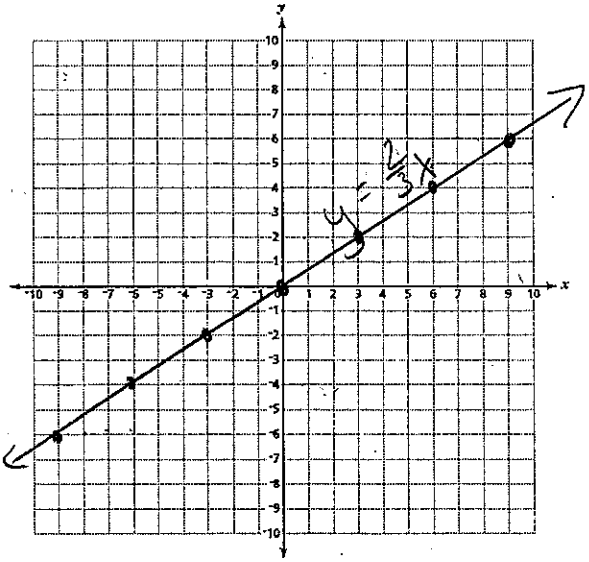
b) $y = 3$

m: zero B: 3



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

m: $\frac{2}{3}$ ↑ → B: 0



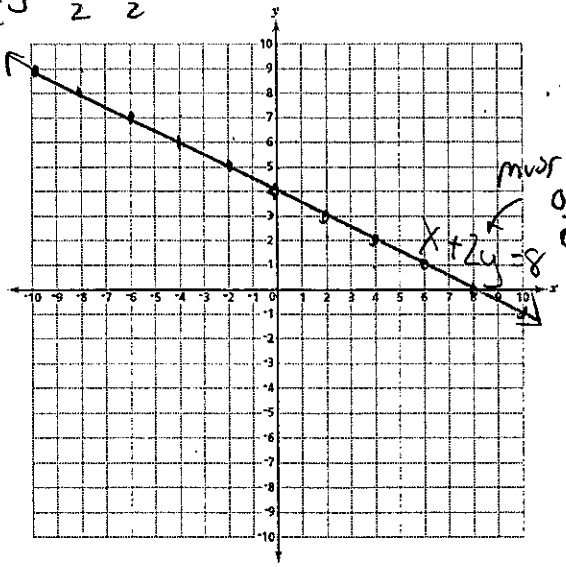
d) $x + 2y = 8$

$-x \quad -x$

$\frac{2y}{2} = \frac{-x}{2} + \frac{8}{2}$

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

m: $-\frac{1}{2}$ ↓ B: 4



must be OG equation

T.P. (-4, 3)

e) $y - x > 2$

$+x \quad +x$

$y > x + 2$

$m: \frac{1}{1}$

$B: 2$

Dotted

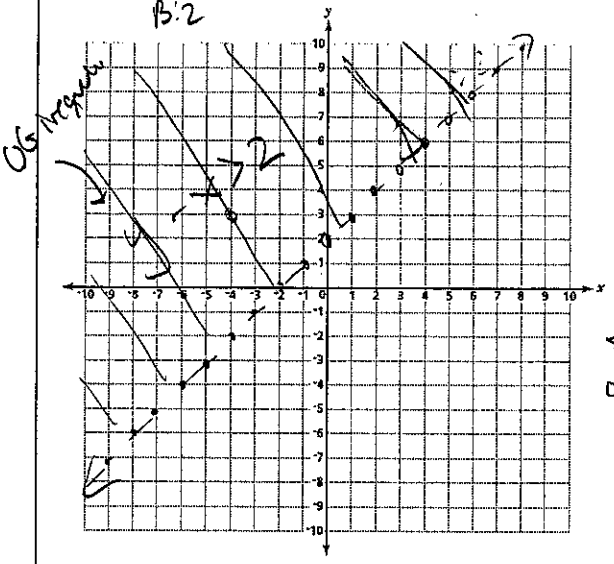
Shade above

$y - x > 2$

$3 - (-4) > 2$

$3 + 4 > 2$

$7 > 2$ ✓



T.P. (6, 2)

f) $3x - y \geq 4$

$-3x \quad -3x$

$\frac{-y}{-1} \geq \frac{-3x + 4}{-1}$

$y \leq 3x - 4$

$m: \frac{3}{1}$

$B: -4$

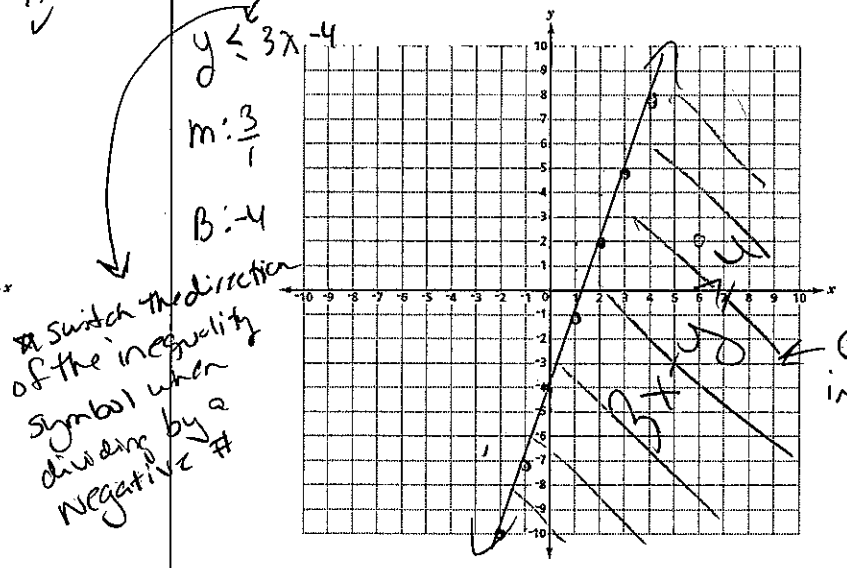
Solid, shading below

$3x - y \geq 4$

$3(6) - 2 \geq 4$

$18 - 2 \geq 4$

$12 \geq 4$ ✓



* switch the direction of the inequality symbol when dividing by a negative #

40) On the provided coordinate planes solve each system of equations graphically and check

a)

$x + y = 6$

$y = 2x - 6$

$x + y = 6$

$-x \quad -x$

$y = -x + 6$

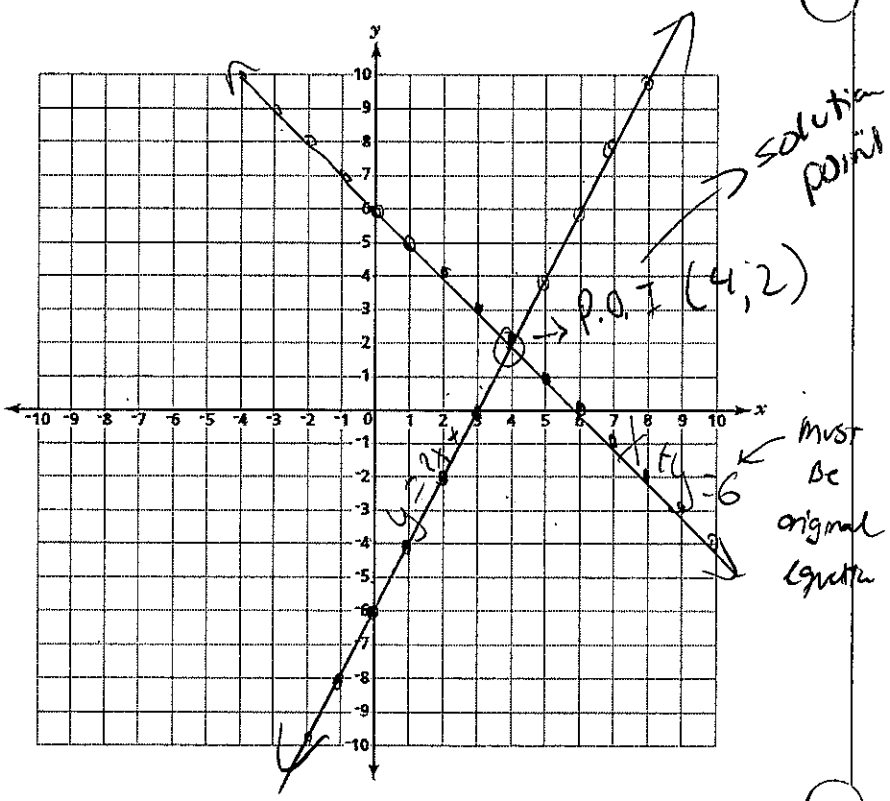
$m: -\frac{1}{1}$

$B: 6$

$y = 2x - 6$

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

$B: -6$



(4, 2)

Chk #1

$x + y = 6$

$4 + 2 = 6$

$6 = 6$ ✓

Chk #1

$y = 2x - 6$

$2 = 2(4) - 6$

$2 = 8 - 6$

$2 = 2$ ✓

Solution point : (4, 2)

b)

$y = -x$

$2x + y = 3$

$y = -x$

m: $-\frac{1}{1}$ ↓ →

B: 0

$2x + y = 3$

$-2x \quad -2x$

$y = -2x + 3$

m: $\frac{-2}{1}$ ↓ →

B: 3

(3, -3)

Chk #1

$y = -x$

$-3 = -(3)$

$-3 = -3$ ✓

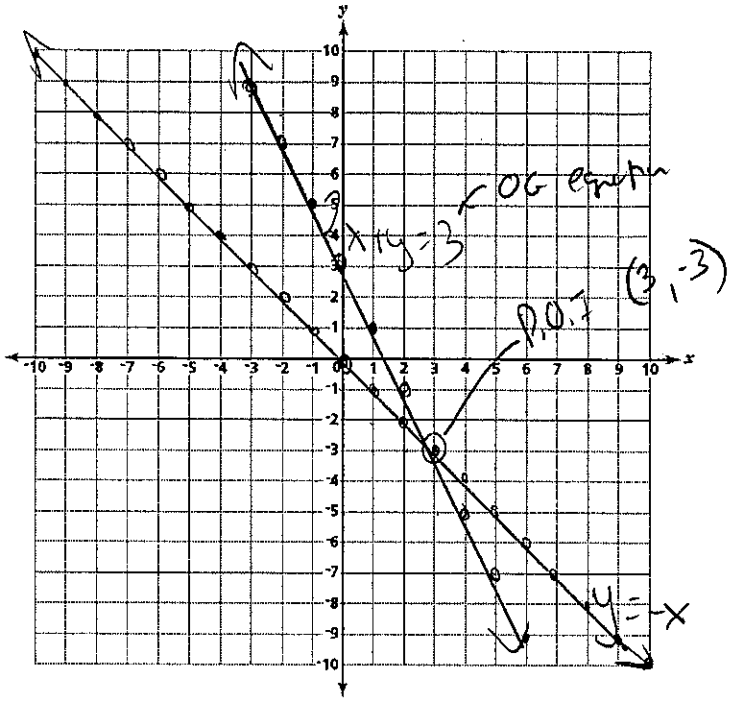
Chk #2

$2x + y = 3$

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

$6 - 3 = 3$

$3 = 3$ ✓



LOG equations

c)

$2y = x + 4$

$x - y + 4 = 0$

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

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

m: $\frac{1}{2}$ ↑ →

B: 2

$x - y + 4 = 0$

$-x \quad -4 \quad -x - 4$

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

$y = x + 4$

m: $\frac{1}{1}$ ↑ →

B: 4

(-4, 0)

Chk #1

$2y = x + 4$

$2(0) = -4 + 4$

$0 = 0$ ✓

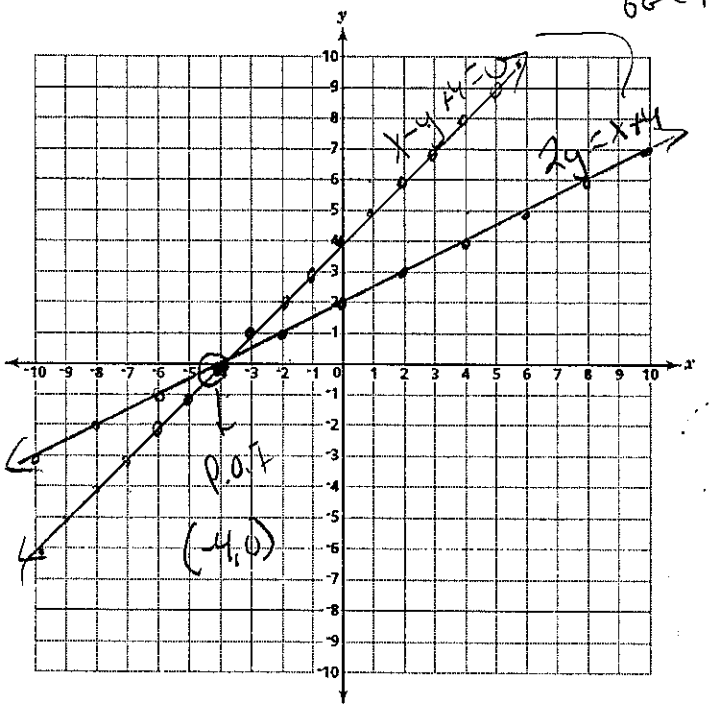
Chk #2

$x - y + 4 = 0$

$-4 - 0 + 4 = 0$

$-4 + 4 = 0$

$0 = 0$ ✓



LOG equations

41) On the provided coordinate planes graph the system of inequalities and label the solution set S.

a)

$y > 2x - 3$

$y \leq 5 - x$

$y > 2x - 3$

m: $\frac{2}{1}$ ↑ →

B: -3

Dotted

shade above

T.P.

(0,0)

$y > 2x - 3$

$0 > 2(0) - 3$

$0 > 0 - 3$

$0 > -3$ ✓

$y \leq 5 - x$

$y \leq -x + 5$

m: $-\frac{1}{1}$ ↓ →

B: 5

Solid

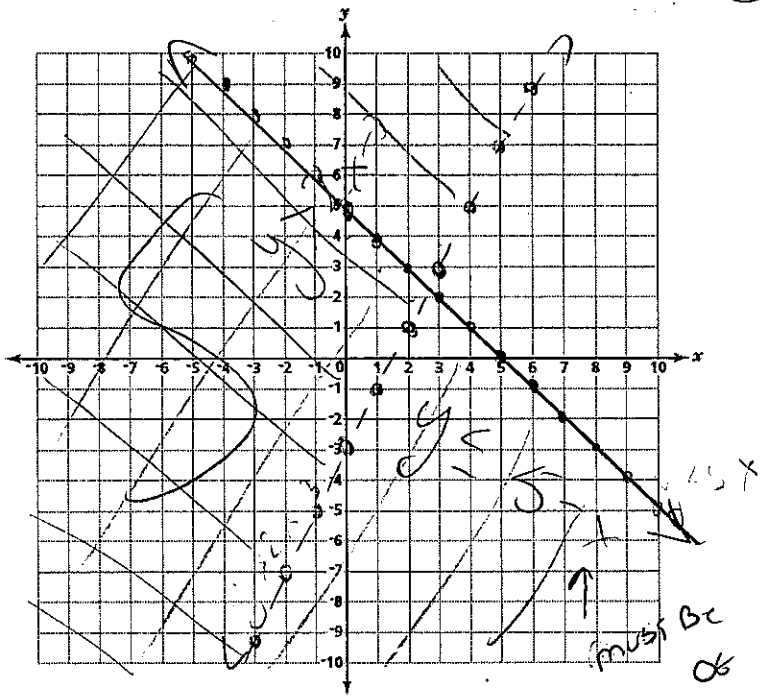
shade below

T.P (0,0)

$y \leq 5 - x$

$0 \leq 5 - 0$

$0 \leq 5$ ✓



b)

$y \leq \frac{1}{2}x$

$x \geq -4$

$y \leq \frac{1}{2}x$

m: $\frac{1}{2}$ ↑ →

B: 0

Solid

shade below

T.P.

(2, -1)

$y \leq \frac{1}{2}x$

$-1 \leq \frac{1}{2}(2)$

$-1 \leq 1$ ✓

$x \geq -4$

m: undefined

B: NONE

solid

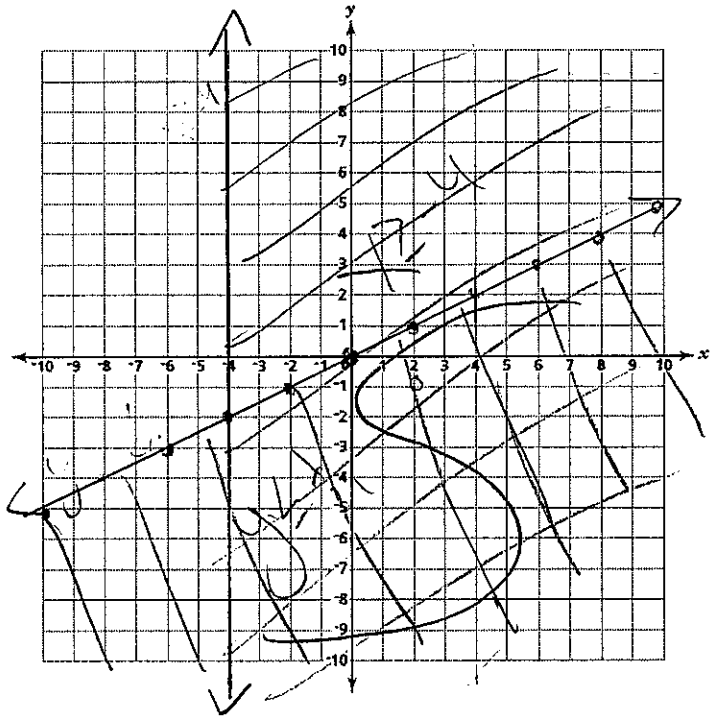
shade above (right)

T.P.

(0,0)

$x \geq -4$

$0 \geq -4$ ✓



c)

$2x + y < 4$

$x - y < -2$

$2x + y < 4$

$-2x \quad -2x$

$y < -2x + 4$

$m: \frac{-2}{1}$ ↓ →

$B: 4$

- dotted
- shade below

T.P. $(0,0)$

$2x + y < 4$

$2(0) + 0 < 4$

$0 < 4$ ✓

$x - y < -2$

$-x \quad -x$

$-y < -x - 2$

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

$y > x + 2$

$m: \frac{1}{1}$ ↑ →

$B: 2$

- dotted
- shade above

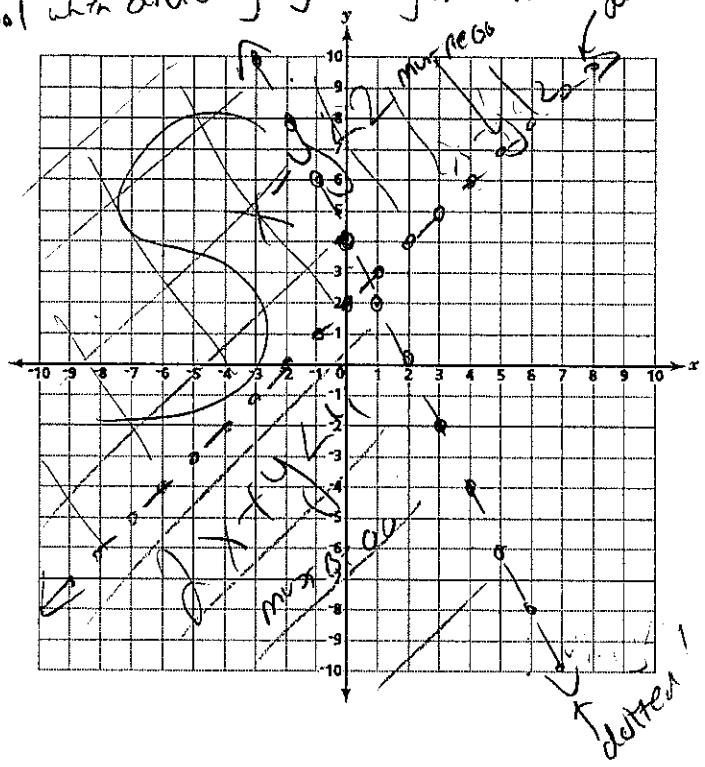
T.P. $(-5,3)$

$x - y < -2$

$-5 - 3 < -2$

$-8 < -2$ ✓

* Switch the direction of the inequality symbol when dividing by a negative #



42) Write an equation for a line that is parallel to the line $2y - 8x = -4$

$+8x \quad +8x$

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

$y = 4x - 2$

$y = 4x + 3$

43) What is the slope and the y-intercept of the following equation?

$2x - y = 6$?

$-2x \quad -2x$

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

$y = 2x - 6$

slope: 2

y-int: -6

44) If the slope of a line is -4 and the y-intercept is 1, which of the following can be an equation of the line?

$y = -4x + 1$

(a) $y - 4x = 1$ → $y - 4x = 1$, $+4x \quad +4x$, $y = 4x + 1$

(b) $x + 4y = 1$ → $x + 4y = 1$, $-x \quad -x$, $\frac{4y}{4} = \frac{-x}{4} + \frac{1}{4}$, $y = -\frac{1}{4}x + \frac{1}{4}$

(c) $y + 4x = 1$

(d) $x - 4y = 1$

$y + 4x = 1$

$-4x \quad -4x$

$y = -4x + 1$

45) Which ordered pair is in the solution set of $x - y = 7$?

(a) $(-7,0)$ → $x - y = 7$, $-7 - 0 = 7$, $-7 \neq 7$

(b) $(0,7)$ → $x - y = 7$, $0 - 7 = 7$, $-7 \neq 7$

(c) $(-1,-8)$

(d) $(-1,8)$

$(-1,-8)$

$x - y = 7$

$-1 - (-8) = 7$

$-1 + 8 = 7$

$7 = 7$

Guess & check until you get the correct one!

46) Which equation represents a line parallel to the line $y = 2x - 5$?

(a) $y = 5x - 2$
(b) $y = 2x + 5$
(c) $y = -\frac{1}{2}x - 5$
(d) $y = -2x - 5$

47) If the line joining $(3x, x+1)$ and $(5,-2)$ has a slope of 4, then what is the value of x?

(a) $\frac{11}{23}$
(b) $\frac{23}{11}$
(c) $-\frac{1}{22}$
(d) -22

$m = \frac{y_2 - y_1}{x_2 - x_1}$

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

$4 = \frac{-2 - x - 1}{5 - 3x}$

$\frac{4}{1} = \frac{-3 - x}{5 - 3x}$

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

$20 - 12x = -3 - x$

$+12x \quad +12x$

$20 = -3 + 11x$

$+3 \quad +3$

$\frac{23}{11} = \frac{11x}{11}$

$x = \frac{23}{11}$

48) Write an equation of the line whose slope is $\frac{1}{5}$ and which passes through the point $(10,-1)$

$y = mx + b$

$m = \frac{1}{5}$

$b = -3$

$y = \frac{1}{5}x - 3$

$y = mx + b$

$-1 = \frac{1}{5}(10) + b$

$-1 = 2 + b$

$-2 \quad -2$

$-3 = b$

49) A straight line with slope 5 contains the points $(1,2)$ and $(3,K)$. Find the value of K.

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$5 = \frac{K - 2}{3 - 1}$

$5 = \frac{K - 2}{2}$

$\frac{5}{1} = \frac{K - 2}{2}$

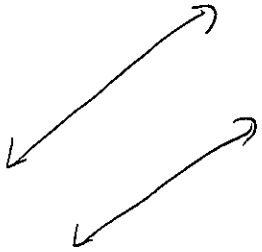
$K - 2 = 10$

$+2 \quad +2$

$K = 12$

50) Which properties best describe the coordinate graphs of two distinct parallel lines?

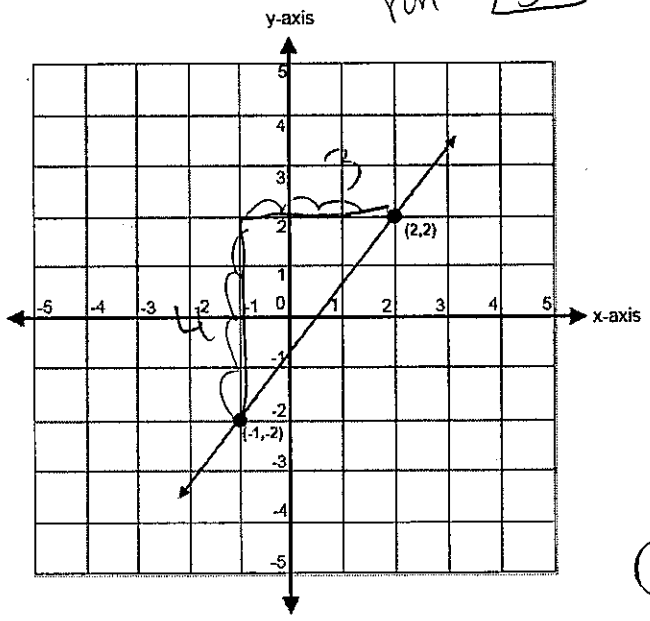
(a) same slopes and different intercepts
(b) same slopes and same intercepts
(c) different slopes and same intercepts
(d) different slopes and different intercepts



- same slope
- diff y-int

51) What is the slope of the line graphed below?

$\frac{\text{rise}}{\text{run}} = \frac{4}{3}$



52) What is the slope of the linear equation
$5y - 10x = -15$

(a) -10
(b) 2
(c) 10
(d) -15

$5y - 10x = -15$
$+10x \quad +10x$
$\frac{5y}{5} = \frac{10x - 15}{5}$
$y = 2x - 3$

53) What is an equation for the line that passes through the coordinates (2,0) and (0,3)?

(a) $y = -\frac{2}{3}x - 2$
(b) $y = \frac{3}{2}x - 3$
(c) $y = -\frac{2}{3}x + 2$
(d) $y = \frac{3}{2}x + 3$

$x_1\ y_1 \quad x_2\ y_2$
$m = \frac{y_2 - y_1}{x_2 - x_1}$
$m = \frac{3 - 0}{0 - 2}$
$m = \frac{3}{-2}$
$m = -\frac{3}{2}$

$y = mx + b$
$0 = -\frac{3}{2}(2) + b$
$0 = -3 + b$
$+3 \quad +3$
$b = 3$

$y = mx + b$
$m = -\frac{3}{2}$
$B = 3$
$y = -\frac{3}{2}x + 3$

54) If a line is horizontal, its slope is

(a) negative
(b) 1
(c) undefined
(d) 0

zero slope is ⟷ so
$y = \#$ is the equation
the y-value in the coordinate is 3, so $y = 3$

55) What is the slope of any line perpendicular to the lines $5x - 6y = 30$?

(a) 30
(b) $\frac{6}{5}$
(c) -30
(d) $-\frac{6}{5}$

$5x - 6y = 30$
$-5x \quad -5x$
$\frac{-6y}{-6} = \frac{-5x + 30}{-6}$
$y = \frac{5}{6}x - 5$
$m = \frac{5}{6}$

negative reciprocal
perp: $-\frac{6}{5}$

56) What is the equation of the line having a slope of 0 and passing through the point (8,3)?

(a) $x = 8$
(b) $y = 8$
(c) $x = 3$
(d) $y = 3$

$y = mx + b$
$m = 0$
$B = 3$
$y = mx + b$
$y = 0(x) + b$
$y = 0 + b$
$y = b$

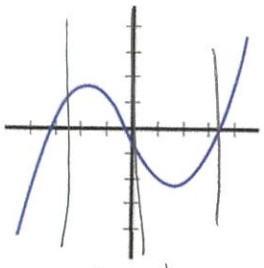
$y = 3$

57) What is the range of the following relation:
{(2,0), (3,3), (6,-2), (4,-6), (8,3)}

$\{-6, -2, 0, 3\}$

- y-values
- write in numerical order
- don't list any repeats

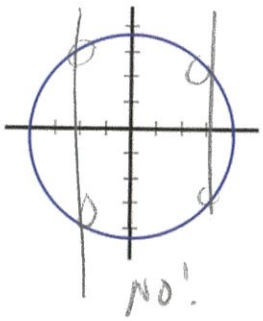
58) Are the following graphs functions?



yes!

passes the vertical line test. The vertical line only goes through the function 1 time

Each element of the Domain corresponds to one and only one element of the range



NO!

Fails the vertical line test. The vertical line goes through the graph more than 1 time

Each element of the Domain does not correspond to one and only one element of the range

59) Are the following mappings functions?

Map A

Input	Output
10	15
20	25
30	35
40	45

yes!

Each element of the domain corresponds to one & only one element of the range

Map B

Input	Output
2	20
4	30
3	40

(2, 20)
(2, 40)

NO! The x-values repeat!

Each element of the domain does not correspond to one & only one element of the range