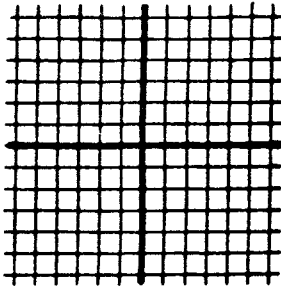


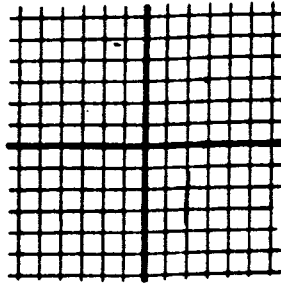
Show all work as necessary on this test or on separate paper.

In 1-6, graph the equations: (4 each)

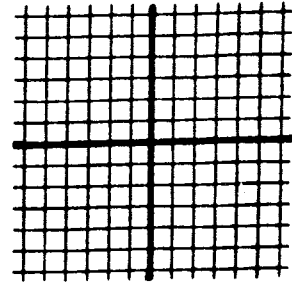
1. $y = 3x - 6$



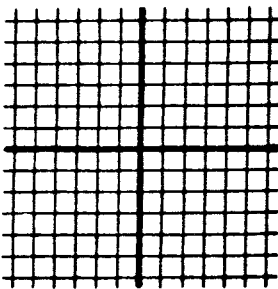
2. $y = -2x + 4$



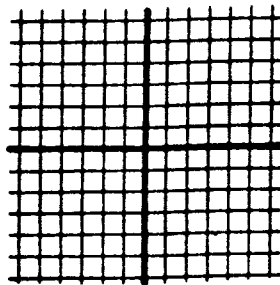
3. $2x + 3y = 6$



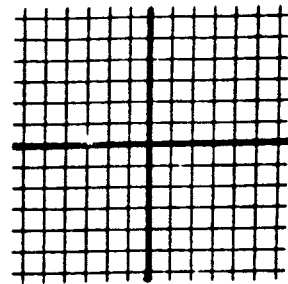
4. $3x - 2y = -6$



5. $4y - x = -4$

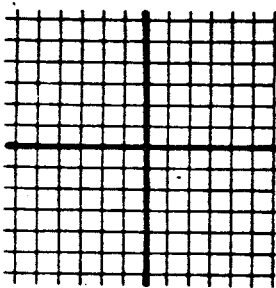


6. $y = -3$

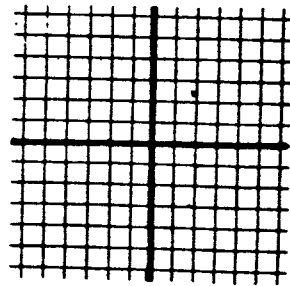


In 7-8, graph the inequalities: (6 each)

7. $y \leq -2x - 4$



8. $3x - 4y < 12$



In 9-12, find the slope and y-intercept of: (3 each)

9. $y = -5x + 6$

10. $x + y = 6$

11. $3x - 2y = -12$

12. $x - y = 12$

13. $y = 4$

14. $x = -2$

15. If $y = \frac{3}{2}x + 5$
give the slope of a line

a) Parallel to it _____.

b) Perpendicular to it _____.

16. If $y = -2x - 2$
give the slope of a line

a) Parallel to it _____.

b) Perpendicular to it _____.

Find the slope between the given points =

17. (6, 2) and (2, -4)

18. (-5, 3) and (-2, -3)

Give the equation of the lines in $y = mx + b$ form.

19. $m = 3$ through (0, -2)

20. $m = 3$ through (-2, 4)

21. $m = -\frac{5}{3}$ through (-5, 7)

In 22-26, solve for $x + y$. (If the equations represent parallel lines or the same line, indicate so.)
SHOW ALL WORK!

$$\begin{array}{l} 22. \quad 2x + y = 4 \\ \quad \quad x - y = 5 \\ \hline \end{array}$$

$$\begin{array}{l} 23. \quad 2x - 3y = 1 \\ \quad \quad x - y = -1 \\ \hline \end{array}$$

$$\begin{array}{l} 24. \quad 3x - y = 6 \\ \quad \quad -6x + 2y = -12 \\ \hline \end{array}$$

$$\begin{array}{l} 25. \quad 4x - 3y = 12 \\ \quad \quad 8x + 6y = -24 \\ \hline \end{array}$$

$$\begin{array}{l} 26. \quad 2x - 5y = 66 \\ \quad \quad 3x + 2y = 23 \\ \hline \end{array}$$

$$\begin{array}{l} 27. \quad 2x + 3y = 12 \\ \quad \quad x = 5 - y \\ \hline \end{array}$$

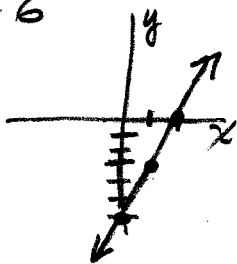
$$\begin{array}{l} 28. \quad y = 3x - 5 \\ \quad \quad 9x - 2y = 4 \\ \hline \end{array}$$

BASIC ALGEBRA EXAM 4 HI Solutions.

1. $y = 3x - 6$

$y_{int} = -6$

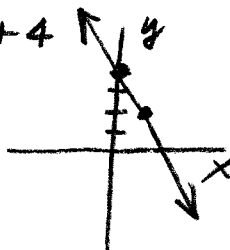
$m = \frac{3}{1}$



2. $y = -2x + 4$

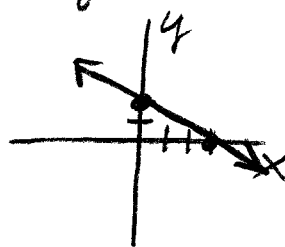
$y_{int} = 4$

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



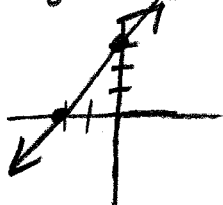
3. $2x + 3y = 6$

x	y
0	2
3	0



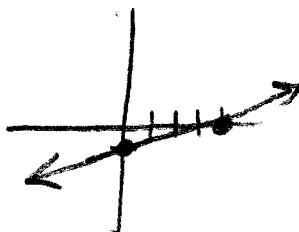
4. $3x - 2y = -6$

x	y
0	3
-2	0



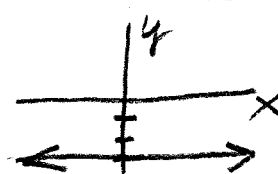
5. $4y - x = -4$

x	y
0	-1
4	0



6. $y = -3$ Horizontal Line

x	y
0	-3
1	-3
2	-3



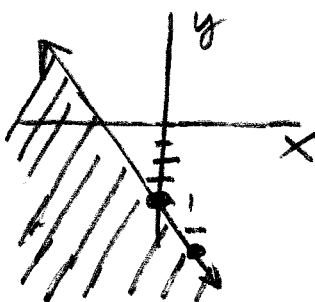
7. $y \leq -2x - 4$

$y = -2x - 4$

$y_{int} = -4$ $m = -\frac{2}{1}$

Solid line

$+y \leq$, so shade below



8. $3x - 4y < 12$

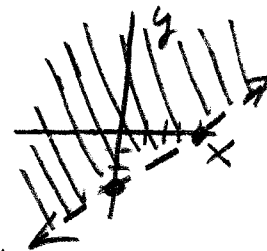
x	y
0	-3
4	0

Dotted Line

$-y <$

$+y >$

Shade above line



9. $y = -5x + 6$

$m = -5$

$y_{int} = 6$

10. $x + y = 6$

$y = -x + 6$

$m = -1$ $y_{int} = 6$

11. $3x - 2y = -12$

$-2y = -3x - 12$

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

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

$y_{int} = 6$

12. $x - y = 12$

$-y = -x + 12$

$y = x - 12$

$m = 1$ $y_{int} = -12$

13. $y = 4$ Horiz Line

$y = 0x + 4$

$m = 0$ $y_{int} = 4$

14. $x = -2$ Vertical Line

$m = \text{undefined}$

Does not cross y-axis.

No y intercept.

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

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

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

16. $y = -2x - 2$

a) $m = -2$

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

17. $(6, 2)$ $(2, -4)$

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

$= \frac{3}{2}$

18. $(-5, 3)$ $(-2, -3)$

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

19. $m = 3$ $y_{int} = -2 = b$

$y = 3x - 2$

20. $m = 3$ $(-2, 4)$

$y = mx + b$

$4 = 3(-2) + b$

$4 = -6 + b$

$+6 \quad +6$

$10 = b$

$y = 3x + 10$

21. $m = -\frac{5}{3}$ $(-5, 7)$

$y = mx + b$

$7 = -\frac{5}{3}(-5) + b$

$21 = 25 + 3b$

$-4 = 3b$

$b = -\frac{4}{3}$

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

$$\begin{array}{r} 22. \quad 2x + y = 4 \\ \quad \quad x - y = 5 \\ \hline 3x = 9 \end{array}$$

$$x = 3$$

$$2(3) + y = 4$$

$$6 + y = 4$$

$$y = -2$$

$$Ch = x - y = 5$$

$$3 - (-2) = 5 \checkmark$$

$$\begin{array}{r} 25. \quad 4x - 3y = 12 \\ \quad \quad 8x + 6y = -24 \end{array}$$

$$8x - 6y = 24$$

$$8x + 6y = -24$$

$$16x = 0$$

$$x = \frac{0}{16} = 0$$

$$4x - 3y = 12$$

$$0 - 3y = 12$$

$$y = -4$$

$$Ch = 8x + 6y = -24$$

$$0 - 24 = -24 \checkmark$$

$$28. \quad y = 3x - 5$$

$$9x - 2y = 4$$

$$9x - 2(3x - 5) = 4$$

$$9x - 6x + 10 = 4$$

$$3x + 10 = 4$$

$$3x = -6$$

$$x = -2$$

$$y = 3x - 5$$

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

$$y = -6 - 5$$

$$y = -11$$

$$Ch = 9x - 2y = 4$$

$$-18 + 22 = 4$$

$$\begin{array}{r} 23. \quad 2x - 3y = 1 \\ \quad \quad -2(x - y = -1) \\ \hline 2x - 3y = 1 \\ \quad \quad -2x + 2y = 2 \\ \hline -y = 3 \end{array}$$

$$y = -3$$

$$2x - 3y = 1$$

$$2x + 9 = 1$$

$$2x = -8$$

$$x = -4$$

$$Ch = x - y = -1$$

$$-4 - (-3) = -1 \checkmark$$

$$\begin{array}{r} 26. \quad 2x - 5y = 66 \\ \quad \quad -2(3x + 2y = 23) \\ \hline 2x - 5y = 66 \\ \quad \quad -6x - 4y = -46 \\ \hline -4y = 152 \end{array}$$

$$y = -8$$

$$2x - 5y = 66$$

$$2x + 40 = 66$$

$$2x = 26$$

$$x = 13$$

$$Ch = 3x + 2y = 23$$

$$39 - 16 = 23 \checkmark$$

$$\begin{array}{r} 24. \quad 3x - y = 6 \\ \quad \quad -6x + 2y = -12 \\ \hline 6x - 2y = 12 \\ \quad \quad -6x + 2y = -12 \\ \hline 0 = 0 \end{array}$$

Same Line

on CLAST: 2

$$\{(x, y) \mid y = 3x - 6\}$$

$$27. \quad 2x + 3y = 12$$

$$x = 5 - y$$

$$2(5 - y) + 3y = 12$$

$$10 - 2y + 3y = 12$$

$$10 + y = 12$$

$$y = 2$$

$$x = 5 - y$$

$$x = 5 - 2$$

$$x = 3$$