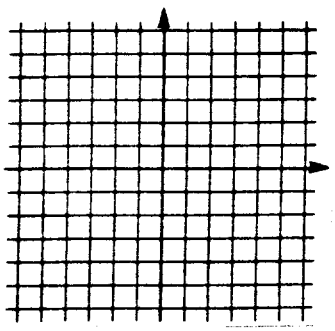
BASIC ALGEBRA EXAM 4 S NAME _____

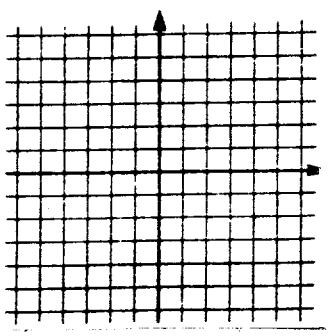
Show all work on this test or on separate paper.
No Calculators. (CIRCLE) ANSWERS

In 1-7, graph:

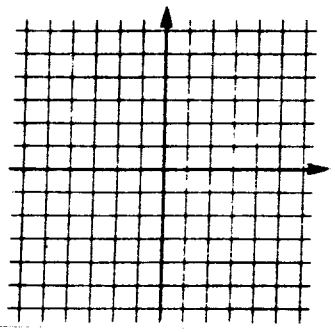
1. $y = 3x - 2$



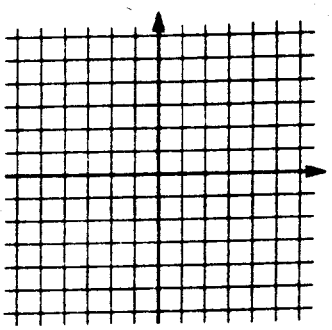
2. $y = -2x + 3$



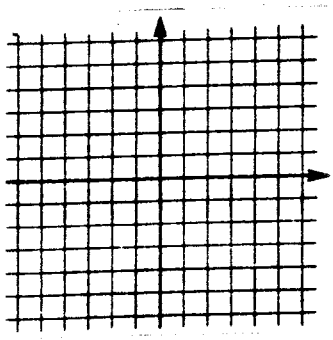
3. $y = \frac{-3}{2}x + 3$



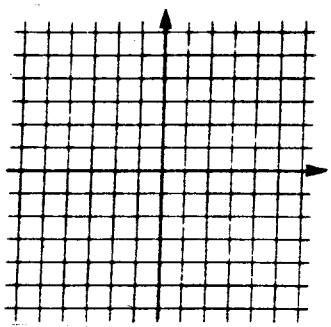
4. $2x + 3y = 12$



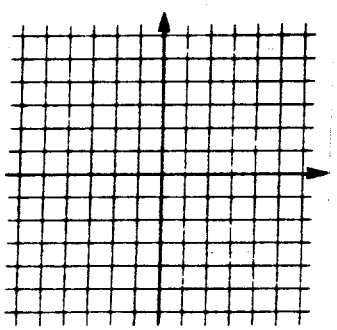
5. $2x - 3y = -12$



6. $y = 4$



7a) $3x + 2y < 6$

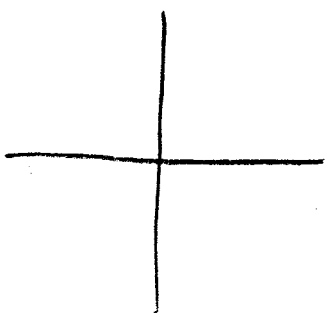


In 8-9, give the slope and y intercept

8. $y = -2x - 3$

9. $2x + 3y = 12$

b) $3x - 2y \leq 6$



10. Find the x and y intercepts

$3x - 4y = 12$

11. Find the slope of the line passing through $(-2, 4)$ and $(4, -2)$

12. Given the line $y = 4x + 5$, find the slope of a line

a) parallel to it:

b) perpendicular to it:

13. Given the line $2x + 5y = 10$ find the slope of a line

a) parallel:

b) perpendicular:

In 14 - 15, find the equation of a line (in $y = mx + b$ form)

14. with slope 4 through $(-2, 5)$

15. with slope $-\frac{3}{4}$ through $(2, -5)$

In 16 – 20, find $x + y$:

16. $2x + y = 4$
$x - y = 5$

17. $3x + 2y = 38$
$x + 5y = 4$

18. $2x - 2y = 12$
$-x + y = -6$

19. $5x + 2y = -12$
$3x - 5y = -1$

20. $3x - 5y = -10$
$y = 2x - 5$

21. $f(x) = 3x - 5$

a) $f(0) =$

b) $f(-2) =$

c) $f(x+2) =$

22. $f(x) = x^2 - 4x + 3$

a) $f(2) =$

b) $f(-2) =$

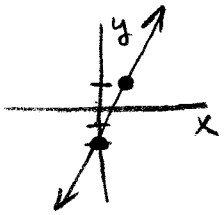
c) $f(\text{gunk}) =$

BASIC ALG. EXAM 4s Solutions

1. $y = 3x - 2$

$y\text{int} = -2$

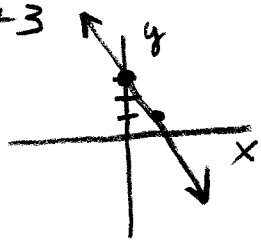
$m = \frac{3}{1}$



2. $y = -2x + 3$

$y\text{int} = 3$

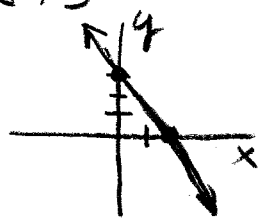
$m = -\frac{2}{1}$



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

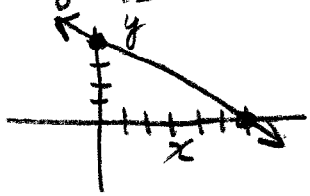
$y\text{int} = 3$

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



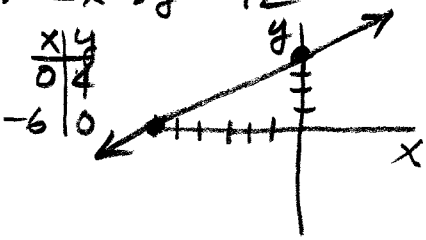
4. $2x + 3y = 12$

x	y
0	4
6	0



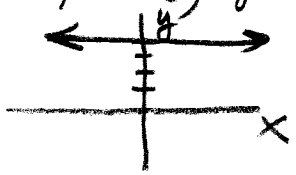
5. $2x - 3y = -12$

x	y
0	4
-6	0



6. $y = 4$

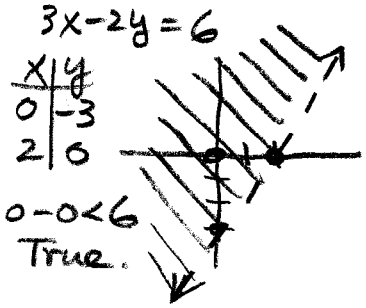
(x is any value, $y = 4$)



7. $3x - 2y < 6$

$3x - 2y = 6$

x	y
0	-3
2	0



$0 - 0 < 6$

True.

8. $y = -2x - 3$

$m = -2$

$y\text{int}\ (0, -3)$

9. $2x + 3y = 12$

$3y = -2x + 12$

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

$m = -\frac{2}{3}$, $y\text{int}\ (0, 4)$

10. $3x - 4y = 12$

$x\text{int}\ (y = 0)$ $3x = 12$

$x = 4$

$(4, 0)$

$y\text{int}\ (x = 0)$ $-4y = 12$

$y = -3$

$(0, -3)$

11. $(-2, 4)$ $(4, -2)$

$$m = \frac{4 - (-2)}{-2 - 4} = \frac{6}{-6} = -1$$

12. $y = 4x + 5$

a) $m = 4$, $m_{\parallel} = 4$

b) $m = 4$, $m_{\perp} = -\frac{1}{4}$

13. $2x + 5y = 10$

$5y = -2x + 10$

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

a) $m = -\frac{2}{5}$ $m_{\parallel} = -\frac{2}{5}$

b) $m_{\perp} = \frac{5}{2}$

14. $m = 4$ $(-2, 5)$

$y - y_1 = m(x - x_1)$

$y - 5 = 4(x + 2)$

$y - 5 = 4x + 8$

$-13 = 4x - y$

15. $(2, -5)$ $m = -\frac{3}{4}$

$y - y_1 = m(x - x_1)$

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

$4y + 20 = -3x + 6$

$3x + 4y = -14$

16. $2x + y = 4$

$x - y = 5$

$3x = 9$

$x = 3$

$6 + y = 4$

$y = -2$

17. $3x + 2y = 38$

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

$3x + 2y = 38$

$-3x - 15y = -12$

$-13y = 26$

$y = -2$

$3x - 4 = 38$

$3x = 42$

$x = 14$

18. $2x - 2y = 12$

$-x + y = -6$

$2x - 2y = 12$

$-2x + 2y = -12$

$0 = 0$

Same Line

19. $5(5x + 2y = -12)$

$2(3x - 5y = -1)$

$25x + 10y = -60$

$6x - 10y = -2$

$31x = -62$

$x = -2$

$-10 + 2y = -12$

$2y = -2$

$y = -1$

20. $3x - 5y = -10$

$y = 2x - 5$

$3x - 5(2x - 5) = -10$

$3x - 10x + 25 = -10$

$-7x = -35$

$x = 5$

$y = 2x - 5 = 5$

21. $f(x) = 3x - 5$

a) $f(0) = 0 - 5 = -5$

b) $f(-2) = -6 - 5 = -11$

c) $f(x + 2) = 3(x + 2) - 5$

$= 3x + 1$

22. $f(x) = x^2 - 4x + 3$

a) $f(2) = 4 - 8 + 3$

$= -1$

b) $f(-2) = 4 + 8 + 3$

$= 15$

c) $f(\text{Quant}) =$

$(\text{Quant})^2 - 4(\text{Quant}) + 3$