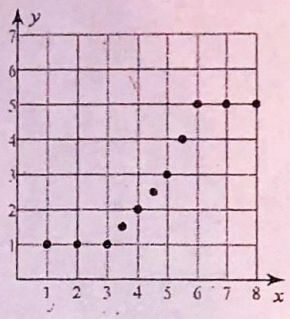
Foundations of Algebra Name_____ ID: 1

November Midterm Review

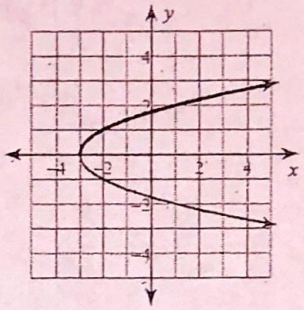
Date_____ Period____

1) Which of the following are functions? CIRCLE ALL THAT APPLY.

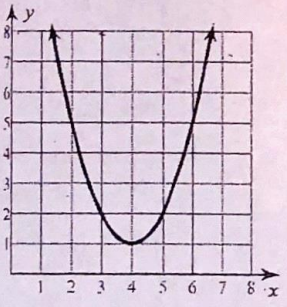
A)



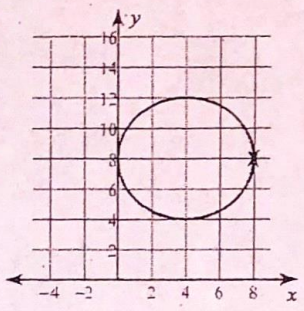
B)



C)



D)



2) Given the system of the following two linear equations:

$2x + y = 11$

$x + 3y = -18$

What is the first step to eliminating y?

_____

Solve the system using the calculator:

_____

3) Given the system of equations:

$2x + y = 5$

$-6x - 3y = -15$

This system is to be solved by elimination of x. If the first equation is multiplied by 6, what should the second equation be multiplied by?:_____

4) Solve:

$x = 2y + 5$

$5x - y = 3$

5) Tickets to an all-star game cost \$3 for children under twelve and \$5 for everyone else. If 90 tickets were sold and \$328 was collected, write a systems of equations that represents this information, and identify how many child and adult tickets.

Equation 1:_____

Equation 2:_____

Solution: _____

6) Solve:

$-6x + 2y = 4$
$-9x + 3y = 12$

Show work.

7) Given the following: $\{(-3, 8), (7, -10)\}$

Domain: _____

Range: _____

8) What is the slope of the line containing the points: $(3, 7)$ and $(6, -2)$

Slope formula: $m = \dfrac{x_1 - x_2}{y_1 - y_2}$

9) Find the slope and y- intercept of the line: $8x - 2y = 32$.

10) State the x- and y- intercepts of the equation $y = -8x + 7$

11) If $f(x) = x^2 + 12x - 18$, what is $f(-2)$?

12) Identify the quadrants given the following information:

$x < 0, y < 0$ Quadrant: _____

$x > 0, y > 0$ Quadrant: _____

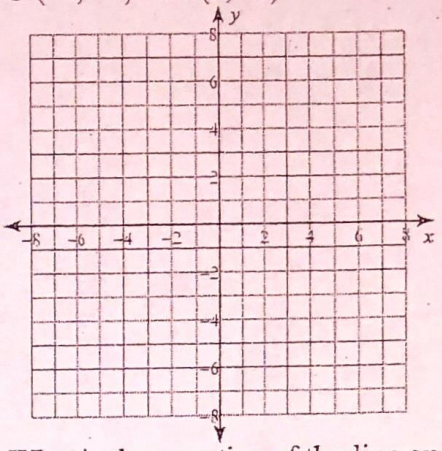
$x < 0, y > 0$ Quadrant: _____

$x > 0, y < 0$ Quadrant: _____

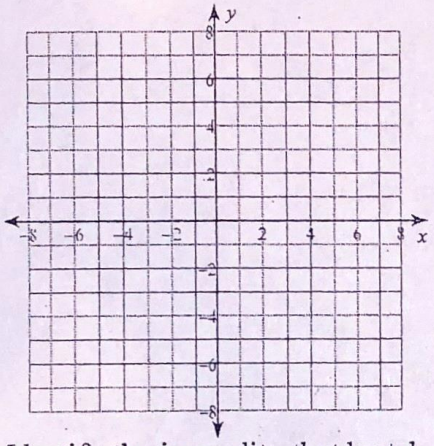
13) Plot the following points and tell what quadrant each point is located:

A: $(-3, 1)$ B:$(2, 5)$

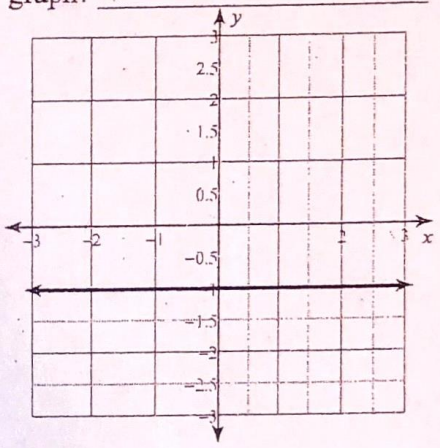
C:$(-4, -4)$ D: $(5, -2)$



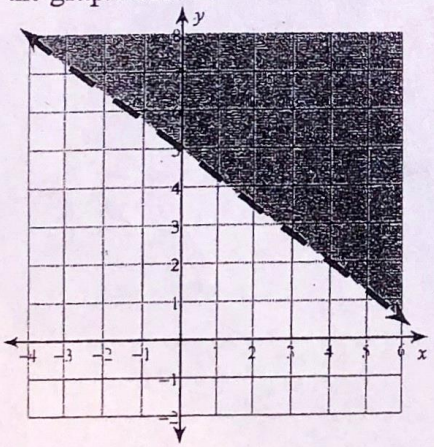
14) Graph the following equation: $y = \frac{1}{2}x + 4$



15) What is the equation of the line on the graph? _____



16) Identify the inequality that best describes the graph below:



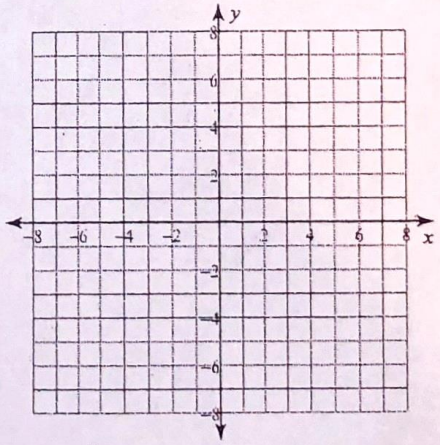
A) $y < \frac{4}{3}x + 5$ B) $y > -\frac{3}{4}x + 5$

C) $y > -\frac{4}{3}x + 5$ D) $y < -\frac{3}{4}x + 5$

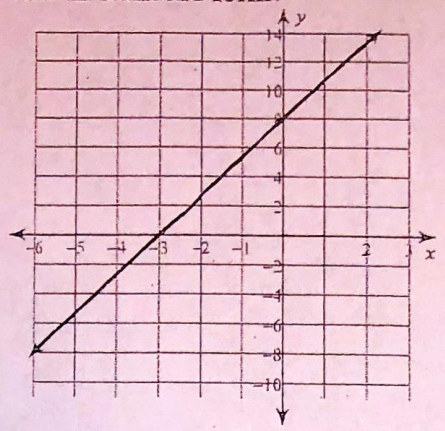
17) Sketch a graph given the following information:

x- intercept = 3

y- intercept is -4



18) What is the equation of the graph of the line in standard form?



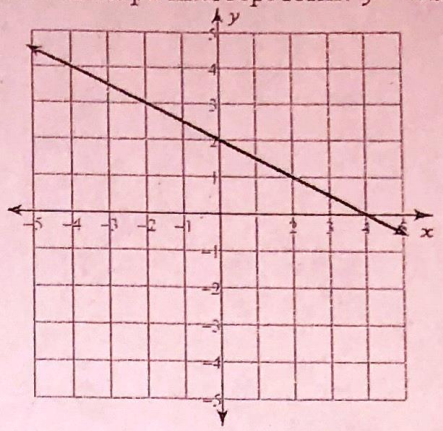
A) $8x - 3y = 24$

B) $8x + 3y = 24$

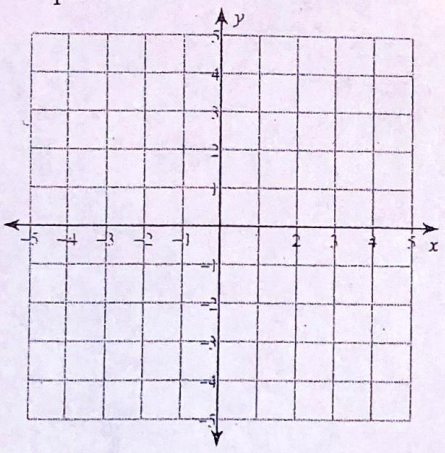
C) $-8x + 3y = 24$

D) $-8x - 3y = 24$

19) What is the equation of the graph of the line in slope intercept form? $y = mx + b$



20) Graph $x = -4$



21) Solve by graphing:

$y = 2x + 1$

$x + y = 7$