Algebra 1 Pre AP

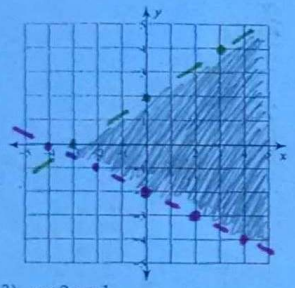
Name_____

Date_____

Sketch the solution to each system of inequalities.

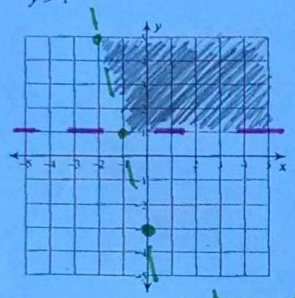
1) $y < \frac{3}{2}x + 2$

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



2) $y > -4x - 3$

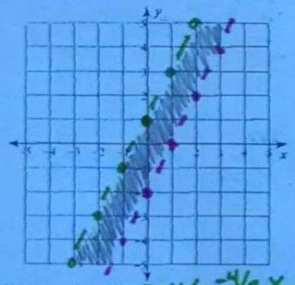
$y > 1$



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

3) $y < 2x + 1$

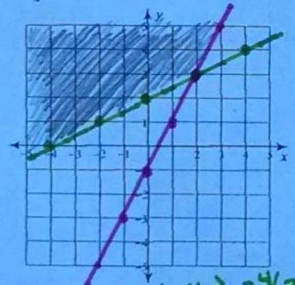
$y > 2x - 2$



4) $x - 2y \leq -4$

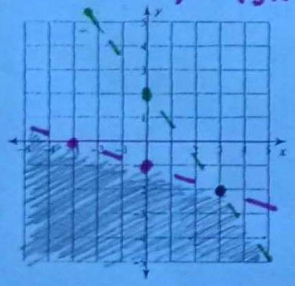
$2x - y \leq 1$

$y \geq 2x - 1$



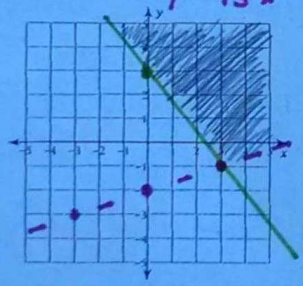
5) $4x + 3y < 6$ → $y < -\frac{4}{3}x + 2$

$x + 3y < -3$ → $y < -\frac{1}{3}x - 1$

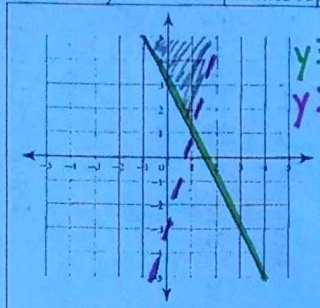


6) $4x + 3y \geq 9$ → $y \geq -\frac{4}{3}x + 3$

$x - 3y < 6$ → $y > \frac{1}{3}x - 2$

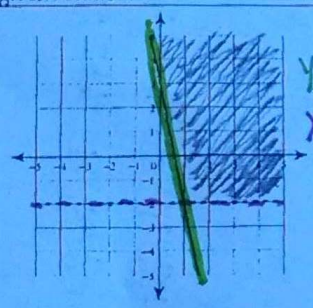


Write the System of Inequalities represented by the given solution.



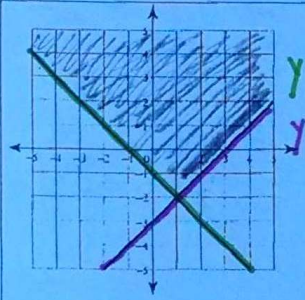
$y \geq -2x + 3$

$y > 4x - 3$



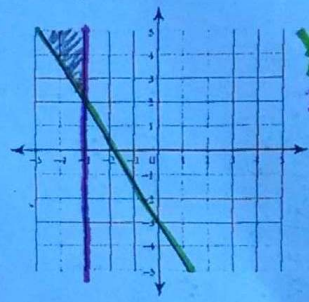
$y \geq -5x + 3$

$y > -2$



$y \geq -x - 1$

$y \geq x - 3$



$y \geq -\frac{5}{3}x - 3$

$x \leq -3$

Remember this...

Solve the following equation for x. Leave answer as a fraction in simplest form.

$$\frac{5}{2}(4x + 10) = x - \frac{1}{4}$$

$X = -10\frac{1}{36}$

What is the equation of a line that contains the point $(-12, -5)$ and has an undefined slope?

$X = -12$

What is the equation of a line that contains the point $(-3, 2)$ and has a slope of zero? $Y = 2$

What is the equation in slope – intercept form of the line that is parallel to $y = \frac{3}{5}x + 4$ and passes through the point $(-5, -8)$?

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

Perpendicular to $y = \frac{3}{5}x + 4$ and passes through the point $(-6, 20)$?

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

Use the function $f(x) = \frac{5}{4}x - 5$ to find $f(-4)$

$f(-4) = \frac{5}{4}(-4) - 5$

$f(-4) = -10$

Use the function above to find the value of x if $f(x) = 5$.

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

$10 = \frac{5}{4}x$

$X = 8$

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

$y = 5$

For #1 – 4, set up the system of equations. DO NOT SOLVE

1) The school Stefan goes to is selling tickets to a choral performance. On the first day of ticket sales, the school sold 3 senior citizen tickets and 1 youth ticket for a total of $38. The school took in $52 on the second day by selling 3 senior citizen tickets and 2 youth tickets. How much is the cost of one adult ticket?

x: cost of senior ticket
y: cost of youth ticket

$3x+1y=38$
$3x+2y=52$

2) A coffee mix, sold for $2.50 per pound, is made by mixing 2 types of coffee. The café has 40mL of coffee that costs $3.00. How much of another coffee that costs $1.50 should the café mix with the first?

3) Wendy is starting a catering business and is attempting to figure out who she should be using to transport the food to different locations. She has found two trucking companies that are willing to make sure her food arrives intact. Peter's Pick Up charges $0.40 per mile and a flat fee of $68. Helen's Haulers charges a flat fee of $23 and $0.65 per mile. Or what distance will both companies charge the same

X: # of miles
Y: total cost

$y=.40x+68$
$y=.65x+23$

4) Your family goes to a restaurant for dinner. There are 6 people in your family. Some order the chicken dinner for $14.80 and some order the steak for $17. If the total bill was $91, how many people ordered each type of dinner?

x: # of ppl who ordered chicken
y: # of ppl who ordered steak

$x+y=6$
$14.80x+17y=91$

Set up AND solve the system of equations.

5) A farmer has two types of milk, one that is 24% butterfat and another which is 18% butterfat. How much of each should he se to end up with 42 gallons of 20% butterfat?

x: 24% Butterfat
y: 18% Butterfat

$x+y=42$
$.24x+.18y=8.4$
$(.20)(42)$

$(x+y=42)(-.24)$
$.24x+.18y=8.4$
$-.24x-.24y=-10.08$
$-.06y=-1.68$
$y=28$

$x+28=42$ (14, 28)
$x=14$

14 gallons of 24% Butterfat
28 gallons of 18% Butterfat