Algebra 1

Systems and Graphing Review

Name_____ ID: 1

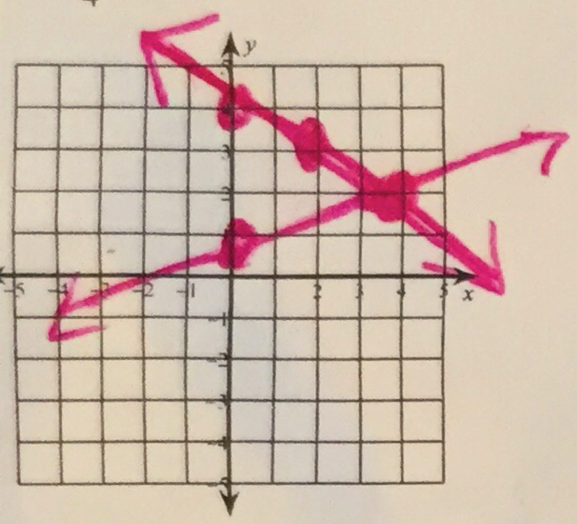
Date_____ Period____

Solve each system by graphing.

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

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

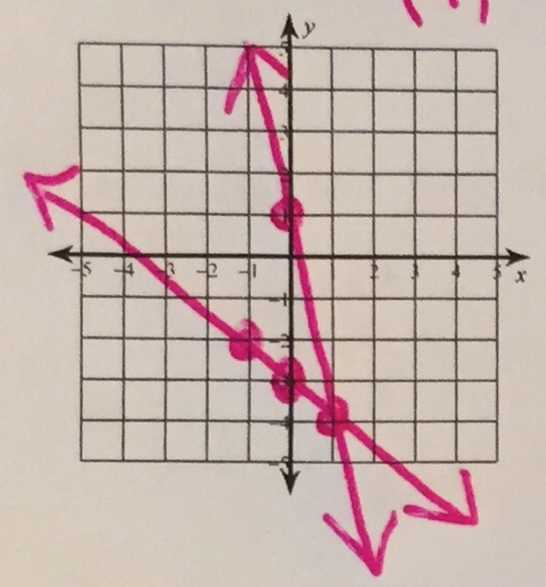
(4,2)



2) $y = -x - 3$

$y = -5x + 1$

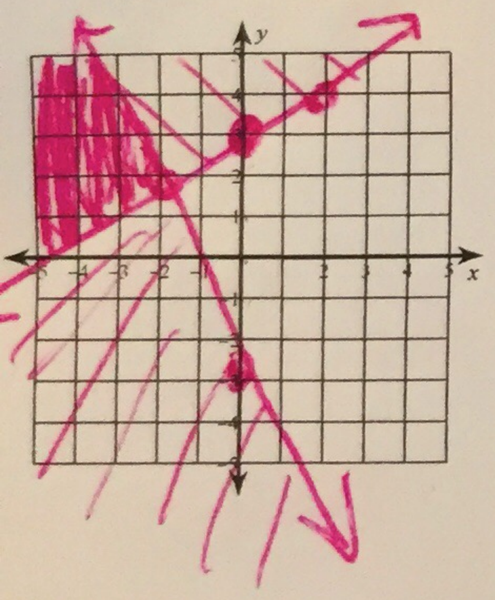
(1,-4)



Sketch the solution to each system of inequalities.

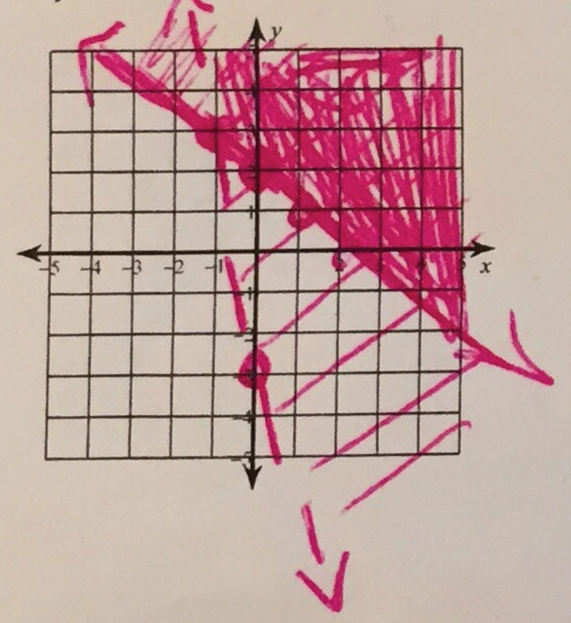
) $y \geq \frac{1}{2}x + 3$

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



4) $y > -6x - 3$

$y \geq -x + 2$



Solve each system by graphing.

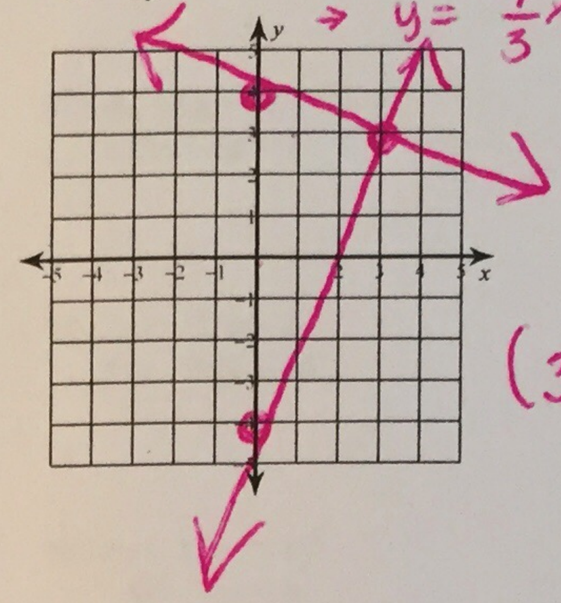
5) $x + 3y = 12$

$7x - 3y = 12$

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

$\rightarrow y = \frac{7}{3}x - 4$

(3,3)



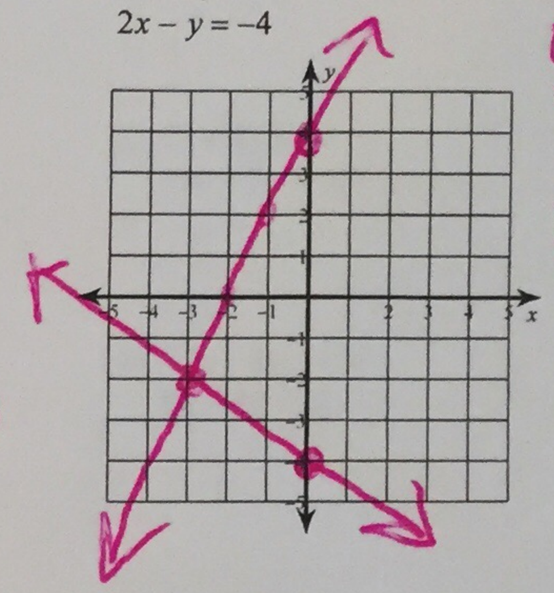
6) $2x + 3y = -12$

$2x - y = -4$

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

$y = 2x + 4$

(-3,-2)



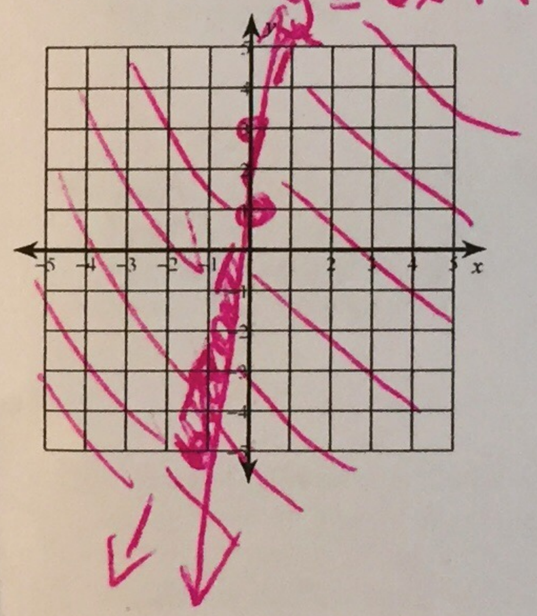
Sketch the solution to each system of inequalities.

7) $6x - y > -3$

$6x - y \leq -1$

$y < 6x + 3$

$y \geq 6x + 1$

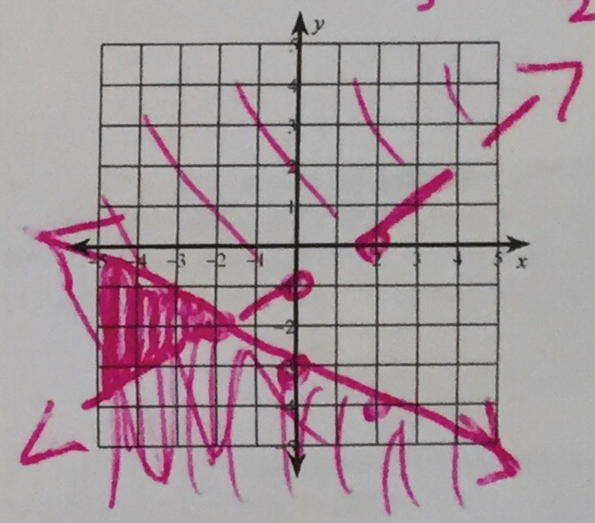


8) $x + 2y \leq -6$

$x - 2y < 2$

$y \leq \frac{-1}{2}x - 3$

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



Solve each system by substitution.

9) $y = -5x - 6$

$y = -4x - 6$

(0,-6)

10) $y = 2$

$y = 3x - 1$

(1,2)

11) $y = 4$
$y = -3x - 5$
(-3,4)
$4 = -3x - 5$
$9 = -3x$
$-3 = x$

12) $y = -6x - 10$
$y = 5x + 23$
(-3,8)

13) $-6x + 7y = 0$
$y = -6$
(-7,-6)
$-6x - 42 = 0$
$-6x = 42$
$x = -7$

14) $6x - 4y = 8$
$y = 6x + 7$
(-2,-5)

15) $3x - 2y = -4$
$y = -2x - 19$
(-6,-7)

16) $-2x - 6y = 14$
$y = -1$
(-4,-1)
$-2x + 6 = 14$
$-2x = 8$
$x = -4$

17) $x - 7y = -8$
$-8x + 8y = 16$
(-1,1)

18) $x + 5y = 14$
$3x + 8y = 14$
(-6,4)

19) $-3x - 8y = -16$
$3x + y = 2$
(0,2)

20) $4x + 7y = -19$
$5x + y = 15$
(4,-5)

Solve each system by elimination.

21) $4x - 2y = -10$
$-4x - y = 1$
(-1,3)

22) $7x - y = 7$
$5x + y = 5$
(1,0)

23) $8x - 3y = -5$
$-7x + 3y = 4$
(-1,-1)

24) $-10x - 10y = 10$
$-8x + 10y = -10$
(0,-1)

25) $3x + 2y = 29$
$-x + 2y = 9$
(5,7)

26) $-9x + 2y = 8$
$-4x + 2y = 8$
(0,4)

27) $-7x - y = 7$
$2x - y = 7$
(0,-7)

28) $-10x + 8y = -16$
$-10x + 10y = -20$
(0,-2)

I'm not doing these

29) $-6x - 4y = -8$
$7x + 2y = 4$

30) $x + 2y = 2$
$-4x - 8y = -28$

31) $6x - 5y = 27$
$-12x + 3y = 9$

32) $7x + 2y = 30$
$14x - 7y = -28$

33) $16x - 12y = 4$
$24x - 18y = -6$

34) $-9x + 8y = -16$
$8x - 6y = 22$

35) $5x + 15y = -17$
$-4x - 12y = 8$

36) $-7x - 9y = -3$
$6x - 5y = 28$

37) Natalie and Pranav are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Natalie sold 1 small box of grapefruit and 2 large boxes of grapefruit for a total of \$49. Pranav sold 11 small boxes of grapefruit and 3 large boxes of grapefruit for a total of \$178. What is the cost each of one small box of grapefruit and one large box of grapefruit?

$1x + 2y = 49$
$11x + 3y = 178$

38) Heather and Ming each improved their yards by planting grass sod and ornamental grass. They bought their supplies from the same store. Heather spent \$92 on 12 ft² of grass sod and 2 bunches of ornamental grass. Ming spent \$78 on 6 ft² of grass sod and 9 bunches of ornamental grass. Find the cost of one ft² of grass sod and the cost of one bunch of ornamental grass.

$12x + 2y = 92$
$6x + 9y = 78$

39) Norachai's school is selling tickets to a choral performance. On the first day of ticket sales the school sold 12 senior citizen tickets and 2 child tickets for a total of \$206. The school took in \$119 on the second day by selling 1 senior citizen ticket and 8 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

$12x + 2y = 206$
$1x + 8y = 119$

40) Sarawong's school is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 6 adult tickets and 10 child tickets for a total of \$178. The school took in \$187 on the second day by selling 12 adult tickets and 7 child tickets. Find the price of an adult ticket and the price of a child ticket.

$6x + 10y = 178$
$12x + 7y = 187$