

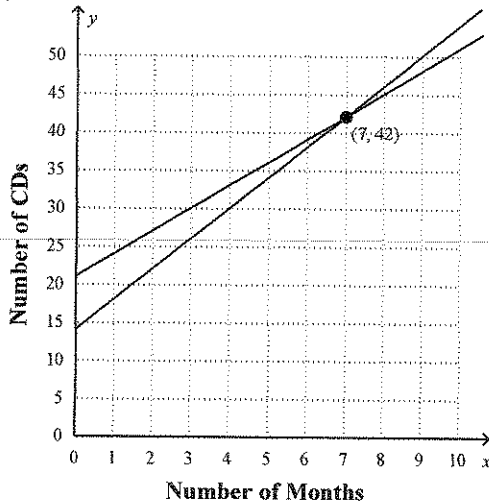
Algebra--Ch. 7 Test REVIEW

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

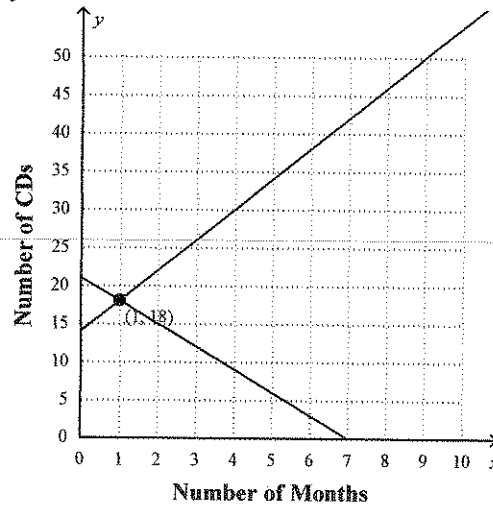
- _____ 1. Tom has a collection of 21 CDs and Nita has a collection of 14 CDs. Tom is adding 3 CDs a month to his collection while Nita is adding 4 CDs a month to her collection. Write and graph a system to find the number of months after which they will have the same number of CDs. Let x represent the number of months and y the number of CDs.

a. $y = 3x + 14$
 $y = 4x + 21$

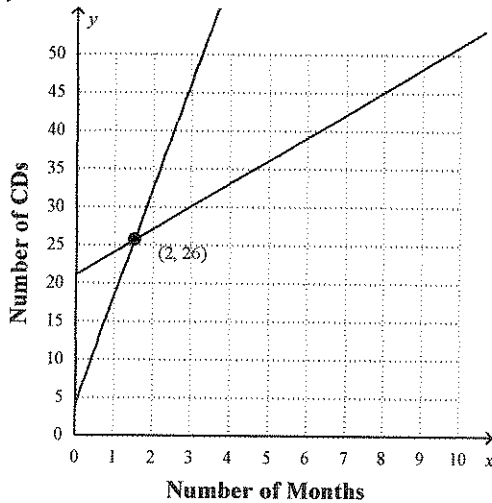


42 months

c. $y = -3x + 21$
 $y = 4x + 14$

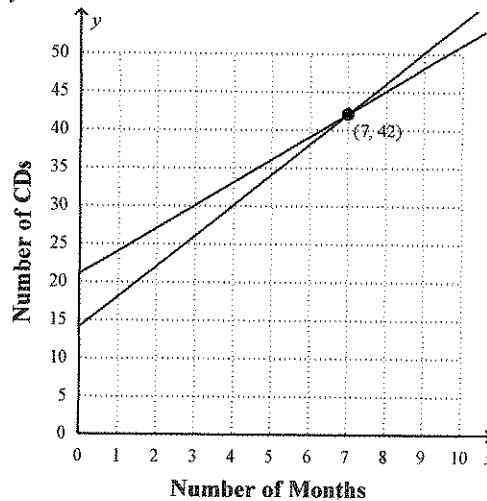


b. $y = 3x + 21$
 $y = 14x + 4$



2 months

d. 1 month
 $y = 3x + 21$
 $y = 4x + 14$

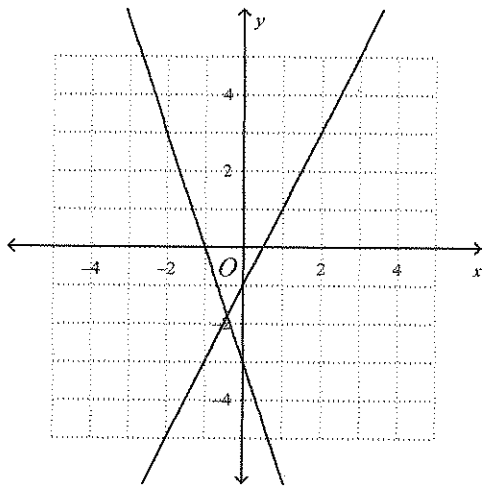


7 months

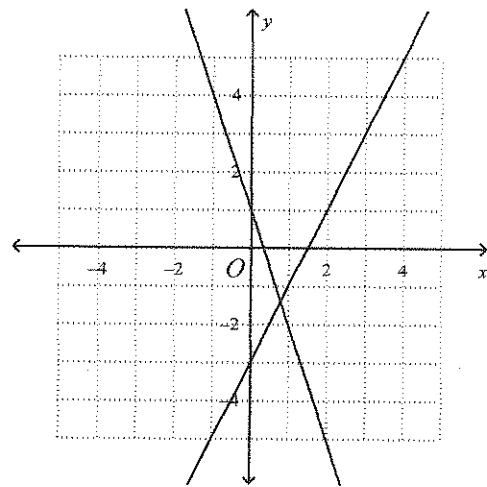
2. Which graph represents the following system of equations?

$$y = 2x + 1$$
$$y = -3x - 3$$

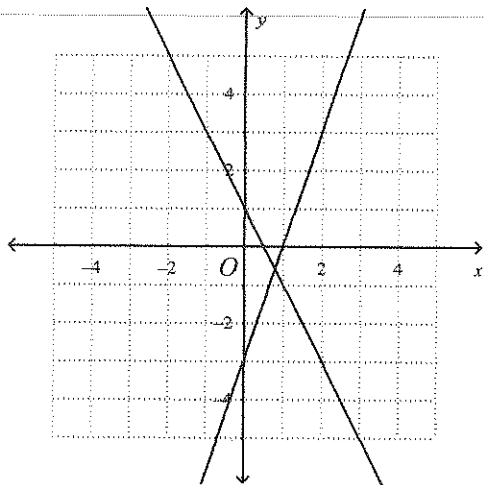
a.



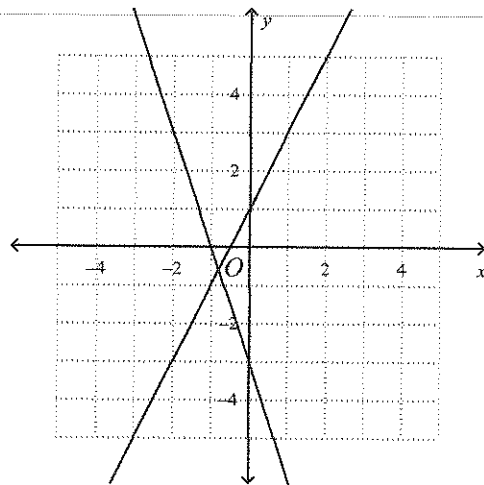
c.



b.



d.

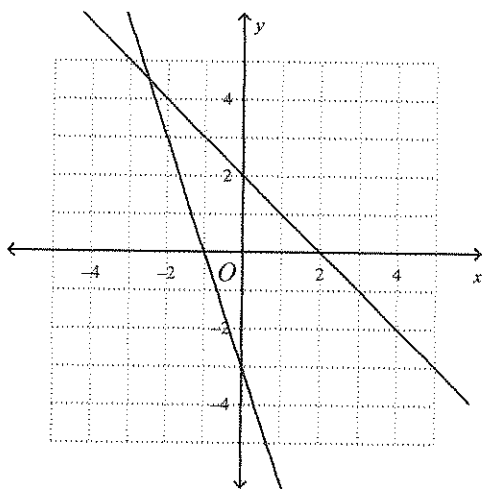


3. Which graph represents the following system of equations?

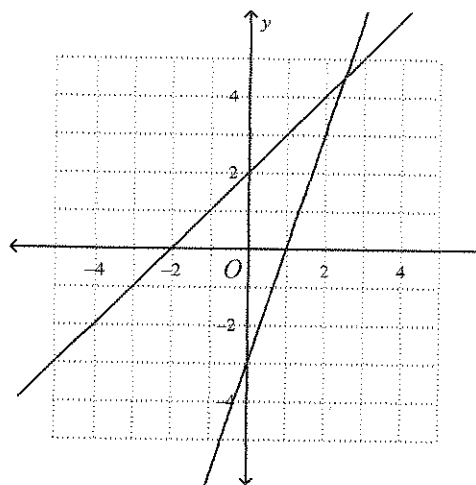
$$y = x + 2$$

$$y = 3x - 3$$

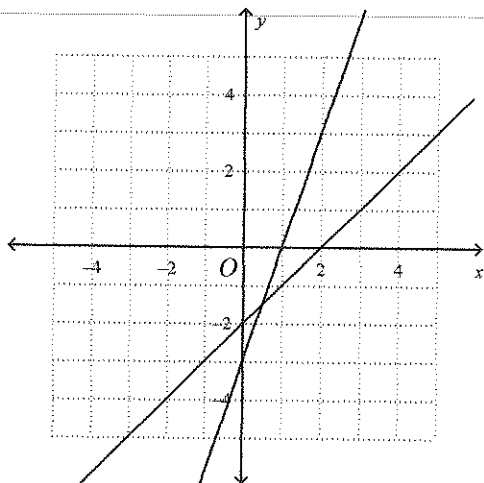
a.



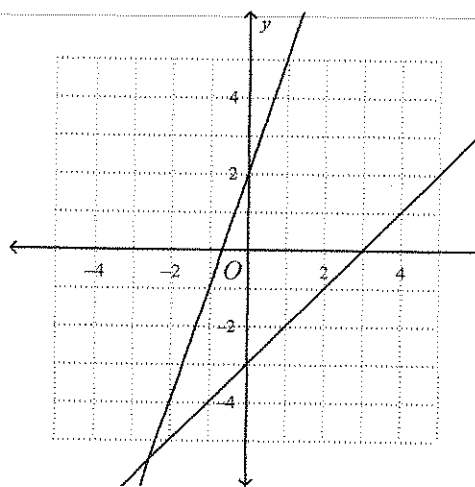
c.



b.



d.



Graph each system. Tell whether the system has *no solution*, *one solution*, or *infinitely many solutions*.

4. $y = -5x - 2$

$$y = -5x - 4$$

a. no solutions

b. one solution

c. infinitely many solutions

5. $y = -2x - 3$

$$y = -4x + 2$$

a. one solution

b. no solutions

c. infinitely many solutions

Solve the system of equations using substitution.

- _____ 6. $y = 4x - 3$
 $y = 2x - 9$
a. (2, 5) b. (2, -5) c. (3, 10) d. (-3, -15)
- _____ 7. $y = 3x - 6$
 $y = 2x - 9$
a. (3, 3) b. (-2, -11) c. (-3, -15) d. (3, -3)
- _____ 8. $3y = -\frac{1}{2}x + 2$
 $y = -x + 9$
a. (3, 6) b. (20, -4) c. (10, -1) d. (-1, 8)

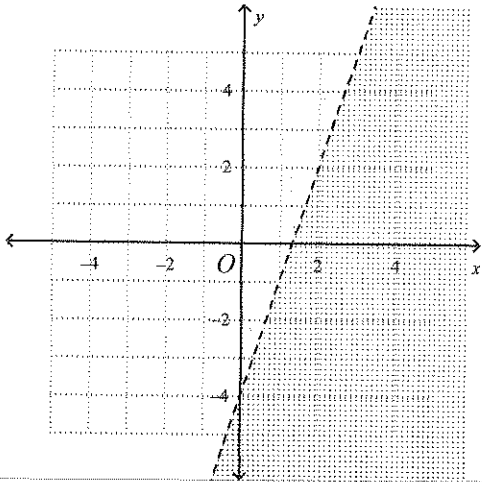
Solve the system using elimination.

- _____ 9. $4x + y = 3$
 $5x - y = 6$
a. (1, 5) b. (1, -1) c. (2, -5) d. (-1, 1)
- _____ 10. $x + 3y = 11$
 $5x + 6y = 19$
a. (-1, 4) b. (5, 1) c. (4, -1) d. (-1, 2)
- _____ 11. $4x + 2y = 14$
 $x + 4y = 21$
a. (1, 4) b. (5, 1) c. (1, 5) d. (1, 2)
- _____ 12. $-9x - 2y = 26$
 $-10x - 5y = 15$
a. (-10, -9) b. (-6, 14) c. (-4, 5) d. (5, -4)
- _____ 13. $2x = -2 + 2y$
 $4y = -1 + 3x$
a. (-5, -4) b. (-5, 2) c. (2, 4) d. (-4, -5)
- _____ 14. A motorboat can go 8 miles downstream on a river in 20 minutes. It takes 30 minutes for the boat to go upstream the same 8 miles. Find the speed of the current.
a. 20 mph b. 16 mph c. 24 mph d. 4 mph
- _____ 15. Mike and Kim invest \$9,000 in equipment to print yearbooks for schools. Each yearbook costs \$5 to print and sells for \$30. How many yearbooks must they sell before their business breaks even?
a. 1,800 b. 360 c. 480 d. 300
- _____ 16. At the local ballpark, the team charges \$6 for each ticket and expects to make \$1,200 in concessions. The team must pay its players \$800 and pay all other workers \$1,600. Each fan gets a free bat that costs the team \$2 per bat. How many tickets must be sold to break even?
a. 150 b. 200 c. 300 d. 900

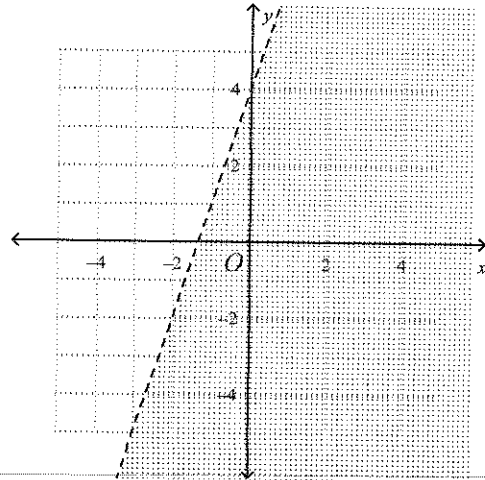
Graph the inequality.

17. $y < 3x - 4$

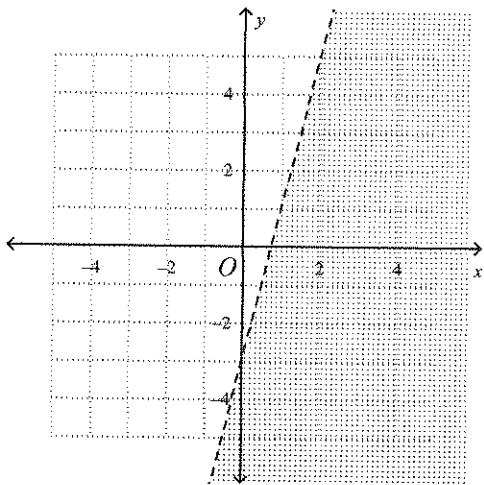
a.



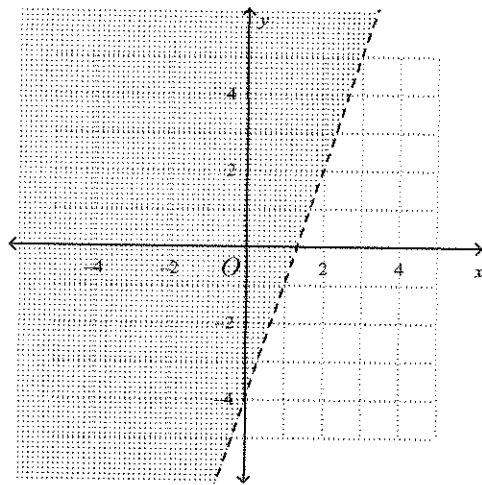
c.



b.

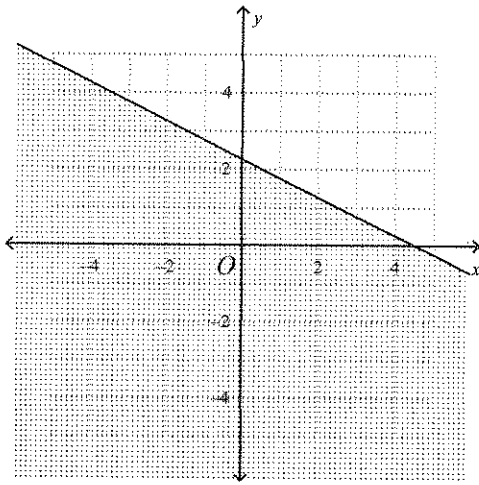


d.

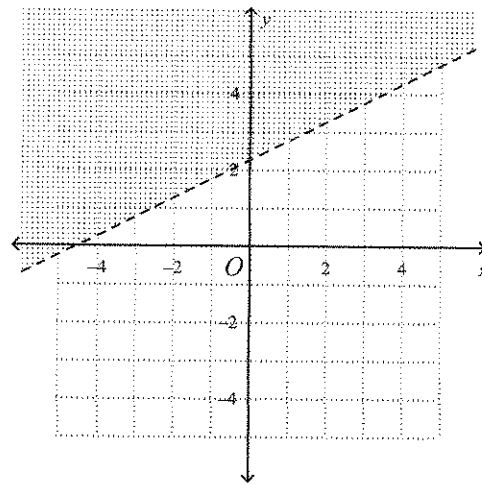


18. $4x + 8y \geq 18$

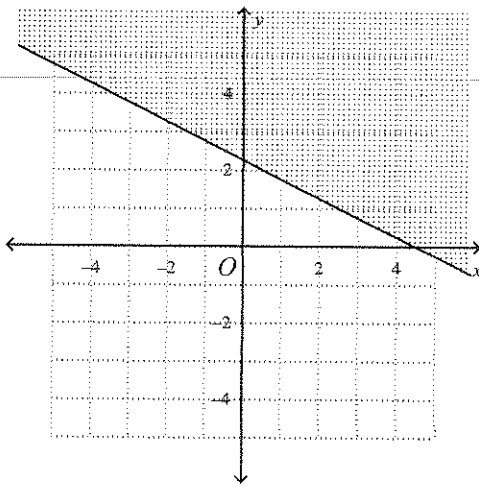
a.



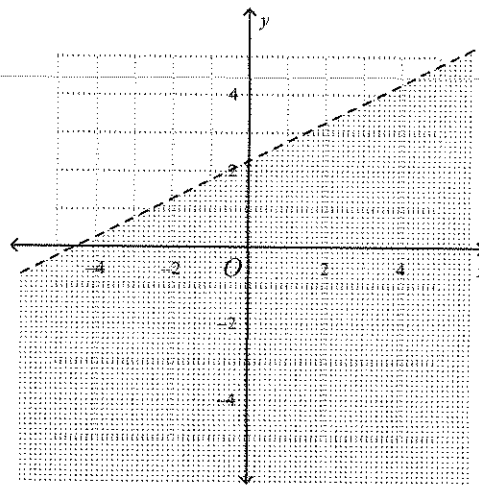
c.



b.



d.



19. Write the following inequality in slope-intercept form.

$8x - 2y \leq 14$

a. $y \leq 4x - 7$

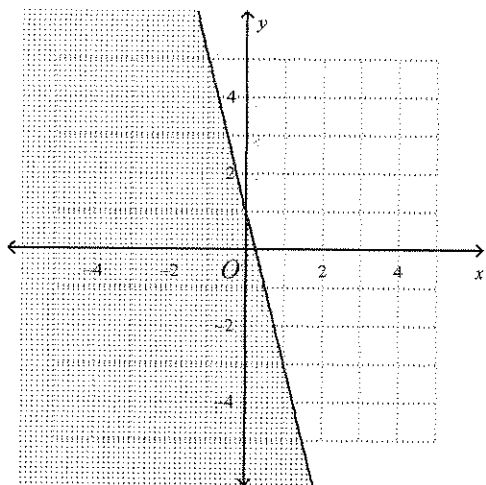
b. $y \geq 4x + 7$

c. $y \leq 4x + 7$

d. $y \geq 4x - 7$

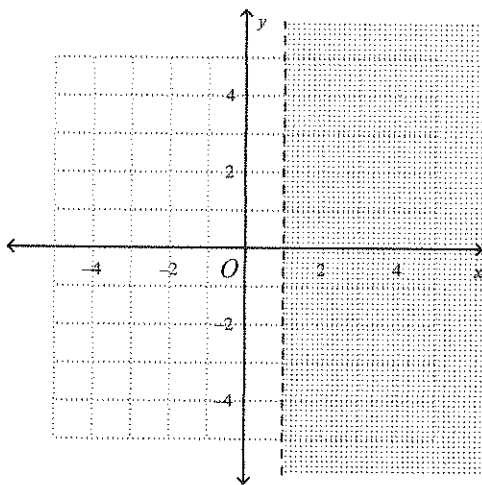
Write the linear inequality shown in the graph.

20.



- a. $y \leq -4x - 1$ b. $y \geq -4x - 1$ c. $y \geq -4x + 1$ d. $y \leq -4x + 1$

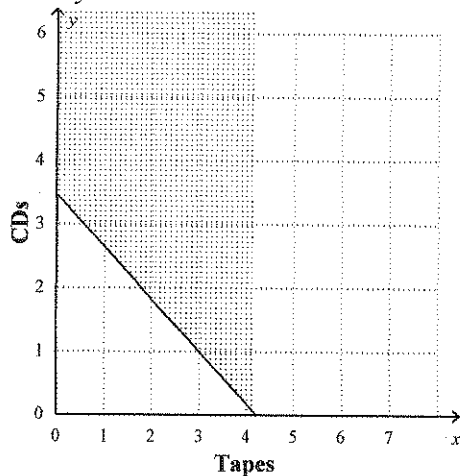
21.



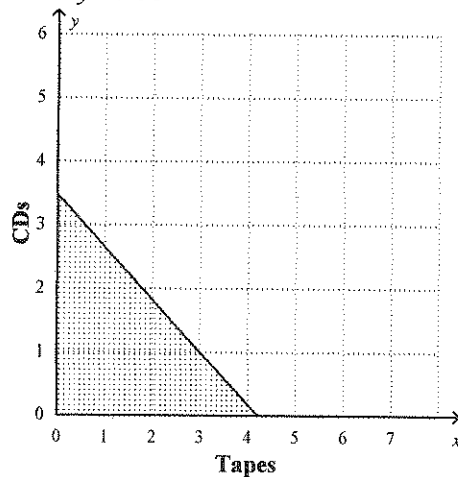
- a. $x \geq 1$ b. $y \geq 1$ c. $y > 1$ d. $x > 1$

22. You have \$38 to spend at the music store. Each cassette tape costs \$9 and each CD costs \$11. Write and graph a linear inequality that represents this situation. Let x represent the number of tapes and y the number of CDs.

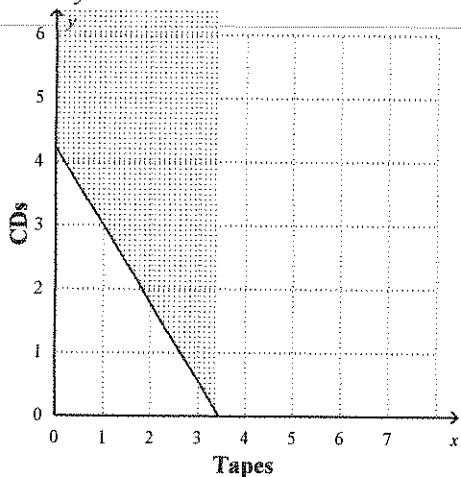
a. $9x + 11y \geq 38$



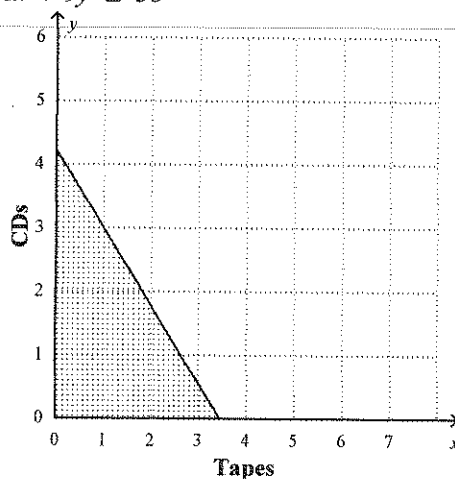
c. $9x + 11y \leq 38$



b. $11x + 9y \geq 38$



d. $11x + 9y \leq 38$



Find a solution of the system of linear inequalities.

23. $1.4x + 7y \geq 21$

$10x - 2y \geq 16$

a. (4, 1)

b. (2, 2)

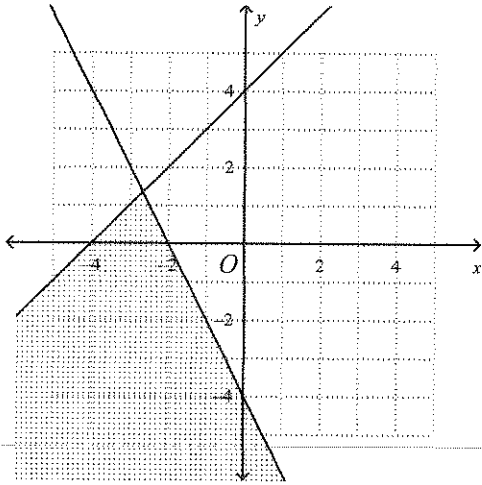
c. (1, 2)

d. (5, 2)

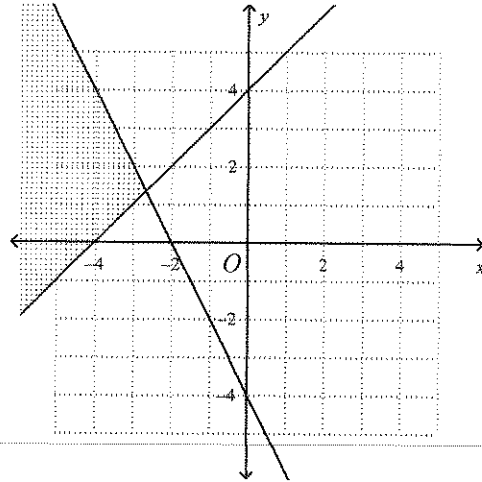
Solve the system of linear inequalities by graphing.

24. $y \leq x + 4$
 $2x + y \leq -4$

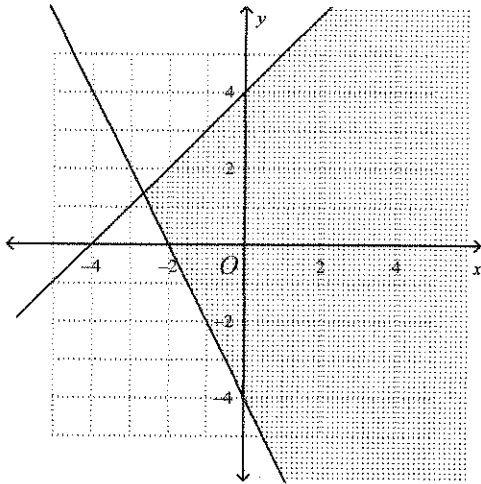
a.



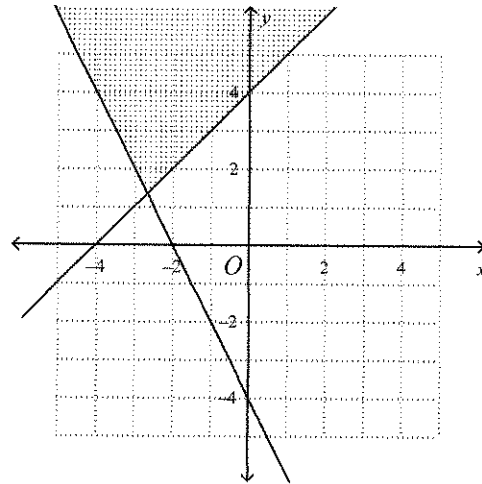
c.



b.

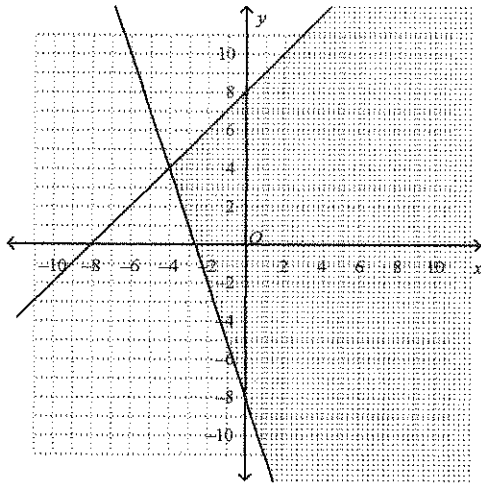


d.



Write a system of inequalities for the graph.

25.



a. $y \geq x + 8$
 $8x + y \geq -8$

b. $y \leq x + 3$
 $8x + y \leq -8$

c. $y \geq x + 8$
 $3x + y \leq -8$

d. $y \leq x + 8$
 $3x + y \leq -8$