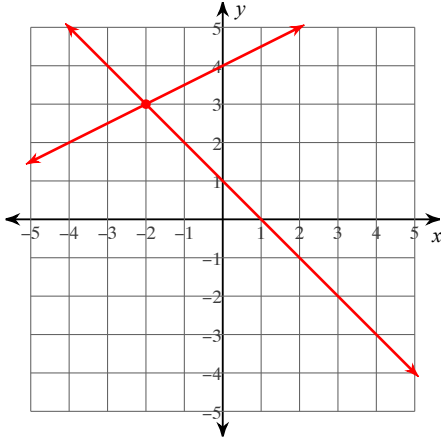


# Linear Inequalities and Systems of Inequalities Study Guide

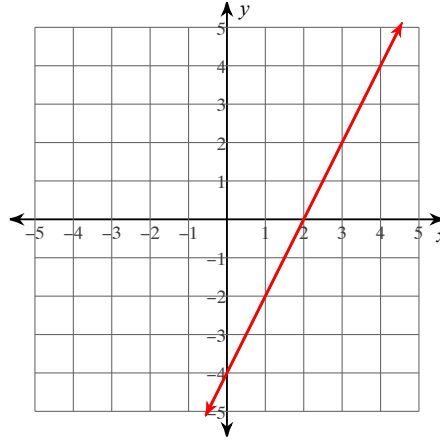
Solve each system by graphing.

1)  $6y - 24 = 3x$   
 $y - 1 = -x$



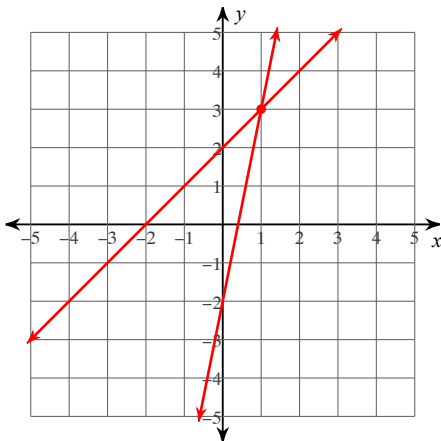
$(-2, 3)$

2)  $-y = 4 - 2x$   
 $4 - 2x = -y$



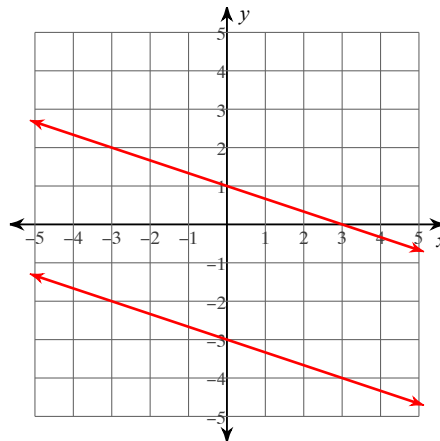
Infinite number of solutions

3)  $-4 - 2x = -2y$   
 $-y - 2 = -5x$



$(1, 3)$

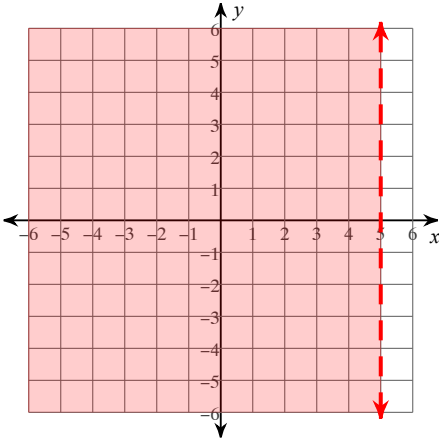
4)  $3 - 3y - x = 0$   
 $9 = -3y - x$



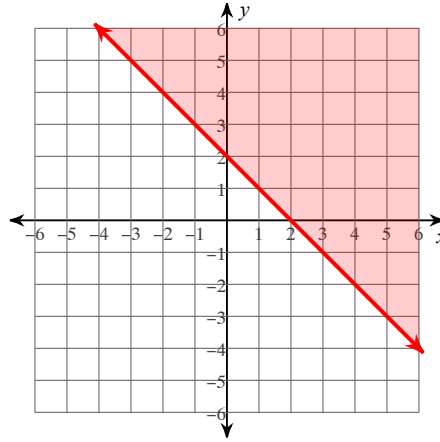
No solution

Sketch the graph of each linear inequality.

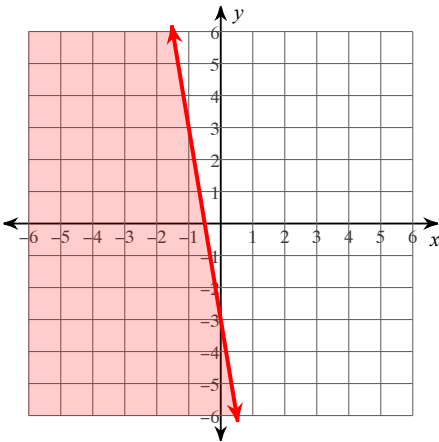
5)  $x < 5$



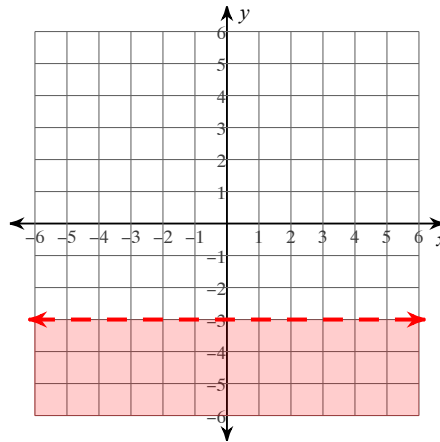
6)  $y \geq -x + 2$



7)  $y \leq -6x - 3$

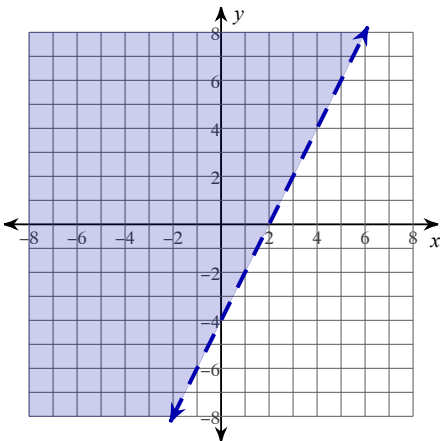


8)  $y < -3$



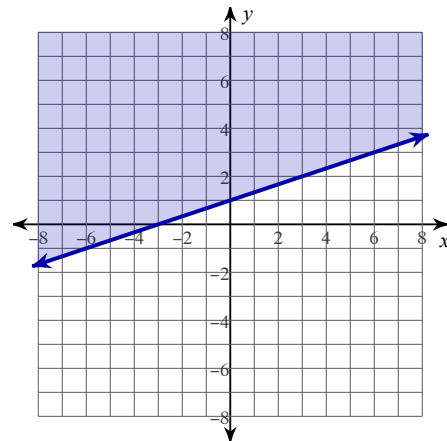
Write the linear inequality for the given graph.

9)



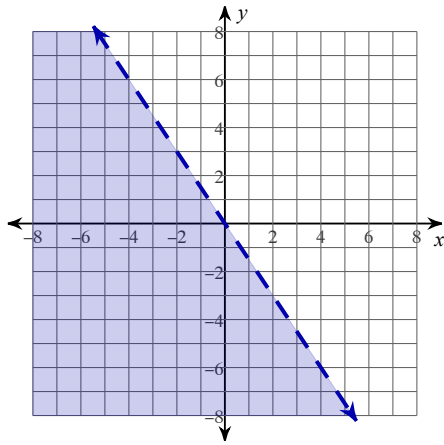
$y > 2x - 4$

10)



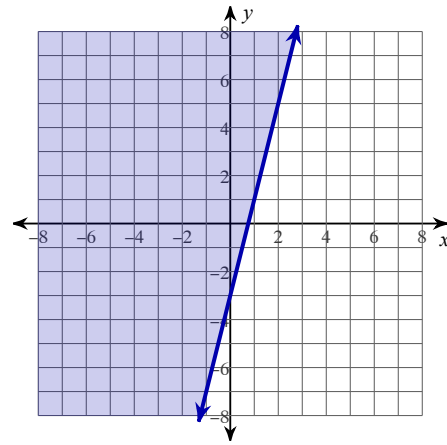
$y \geq \frac{1}{3}x + 1$

11)



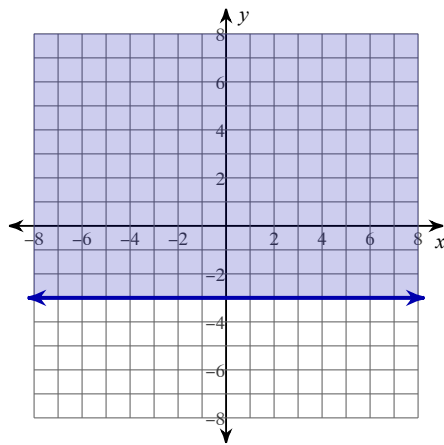
$$y < -\frac{3}{2}x$$

12)



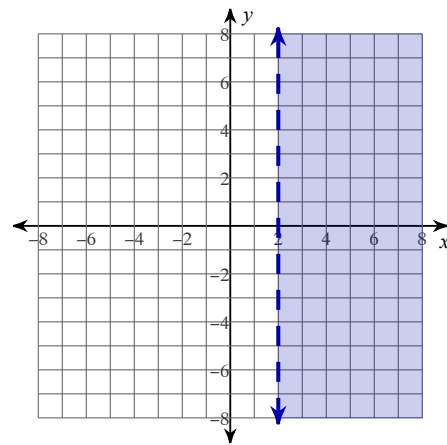
$$y \geq 4x - 3$$

13)



$$y \geq -3$$

14)

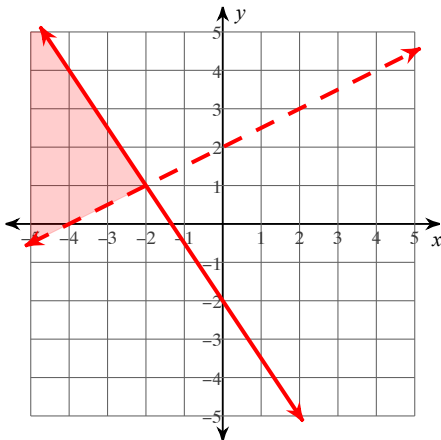


$$x > 2$$

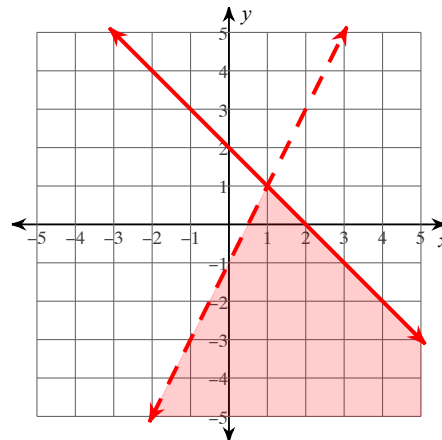
Sketch the solution to each system of inequalities.

15)  $y > \frac{1}{2}x + 2$

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

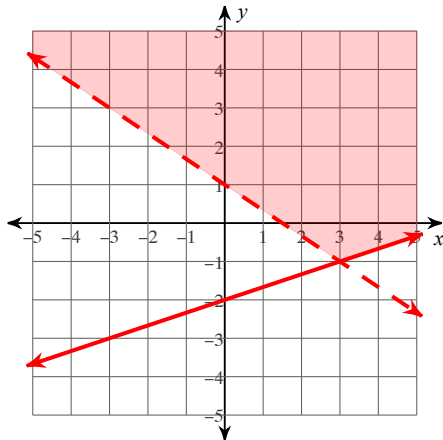


16)  $y \leq -x + 2$   
 $y < 2x - 1$



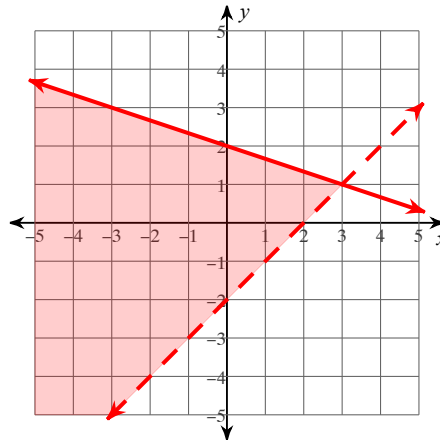
$$17) y > -\frac{2}{3}x + 1$$

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



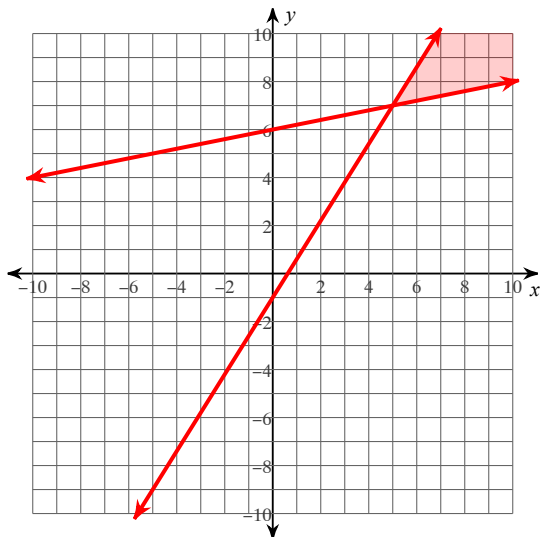
$$18) y > x - 2$$

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



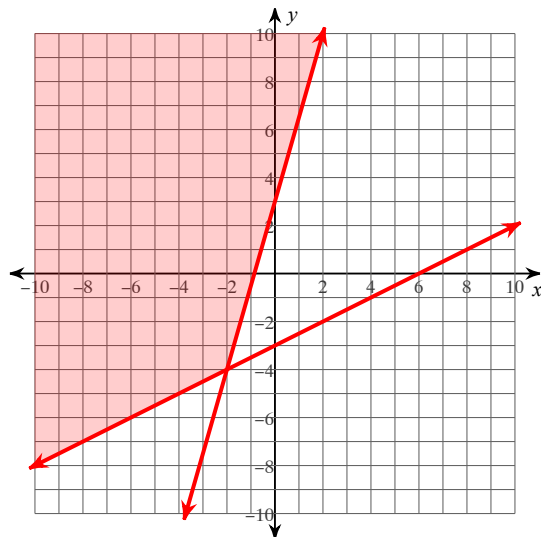
$$19) x - 5y \leq -30$$

$$8x - 5y \geq 5$$



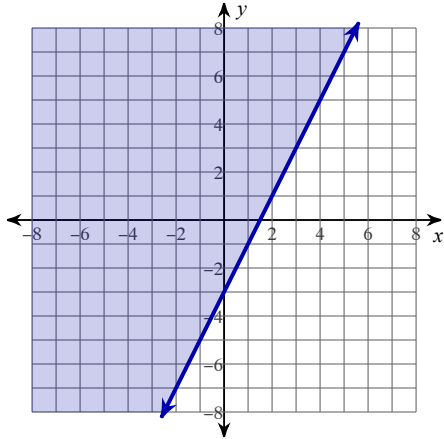
$$20) x - 2y \leq 6$$

$$7x - 2y \leq -6$$



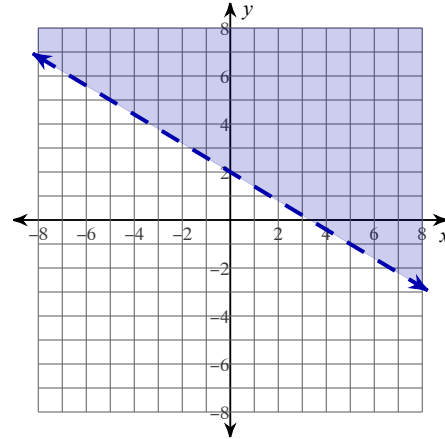
Using the graphs to answer the questions.

21) Which of the following is not a solution to the given inequality?



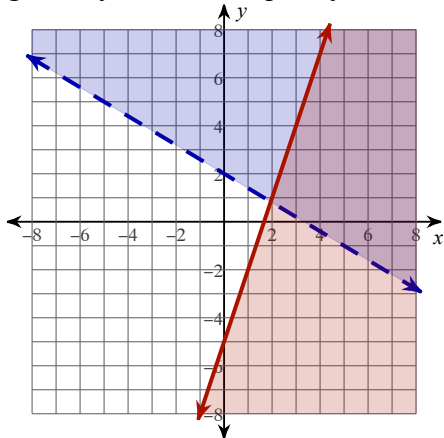
- A) (-6,2)      \*B) (6,2)  
 C) (-2,6)      D) (2,6)

22) Which of the following is a solution to the given inequality?



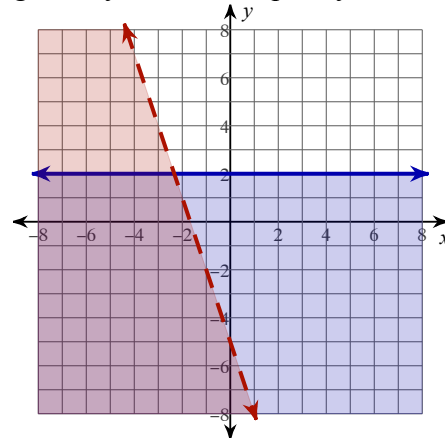
- A) (3,-5)      B) (2,-2)  
 \*C) (3,5)      D) (-2,2)

23) Which of the following is a solution to the given system of inequality?



- A) (3,-4)      \*B) (3,4)  
 C) (-3,4)      D) (-2,-4)

24) Which of the following is a solution to the given system of inequality?



- A) (0,5)      B) (5,0)  
 C) (0,-5)      \*D) (-5,0)