

Worksheet #2 - Systems of Inequalities

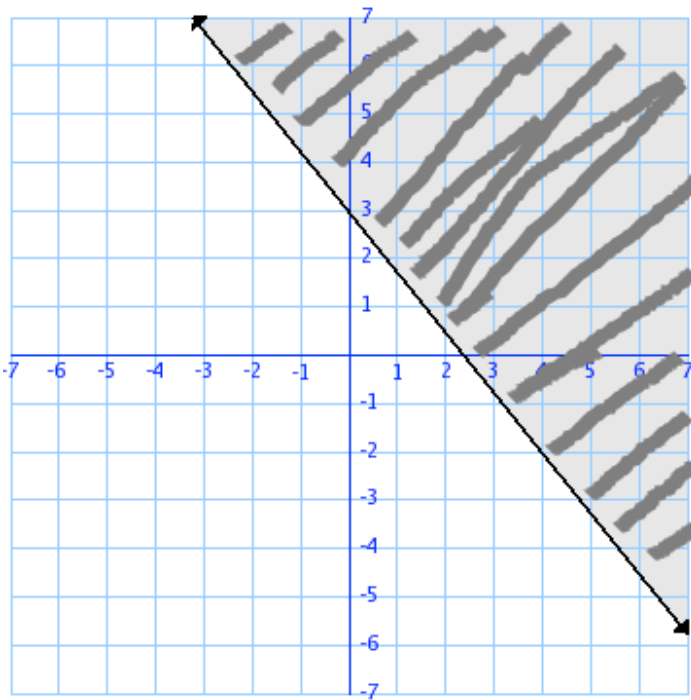
Fill in the blank with the word *dashed* or *solid*.

1. If the inequality has a $<$ or $>$, then your graph will have a _____ line.
2. If the inequality has a \leq or \geq , then your graph will have a _____ line.

Fill in the blank with the word *up* or *down*.

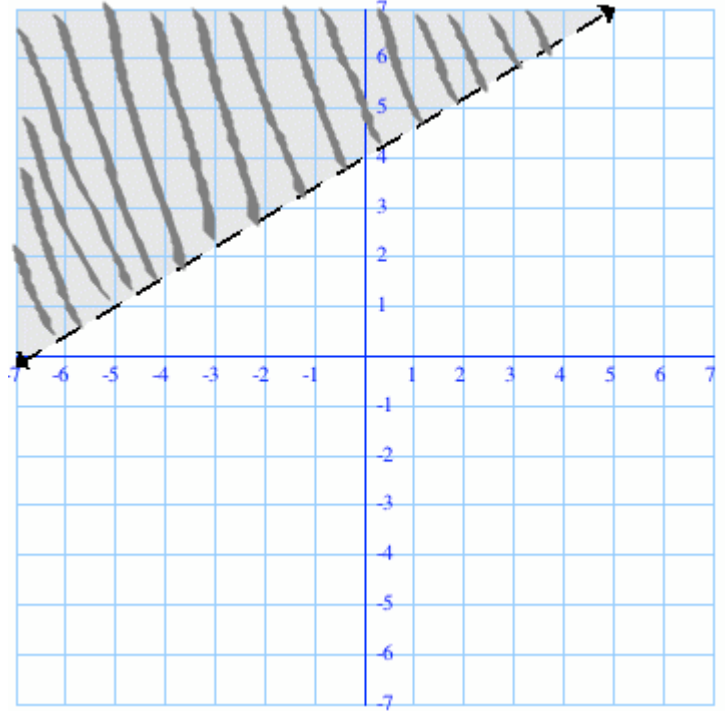
3. If the inequality has a $y >$ or $y \geq$, then you will shade _____
4. If the inequality has a $y <$ or $y \leq$, then you will shade _____

5.) State the inequality that represents this graph.



- A.) $y \leq \frac{5}{4}x + 3$ C.) $y \leq \frac{-5}{4}x + 3$
 B.) $y \leq \frac{5}{4}x - 3$ D.) $y \leq \frac{-5}{4}x - 3$

6.) State the inequality that represents this graph.



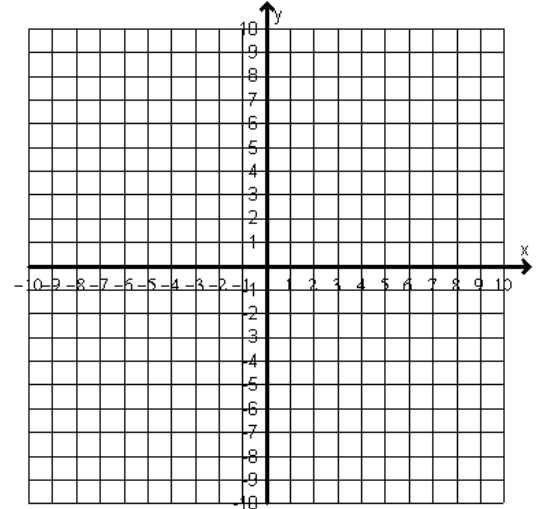
6.) _____

7.) Consider the system of linear inequalities

(a) Graph this system.

$$y \geq 2x - 7$$

$$y \leq 2x + 4$$



(b) State the coordinates of one point that lies in A

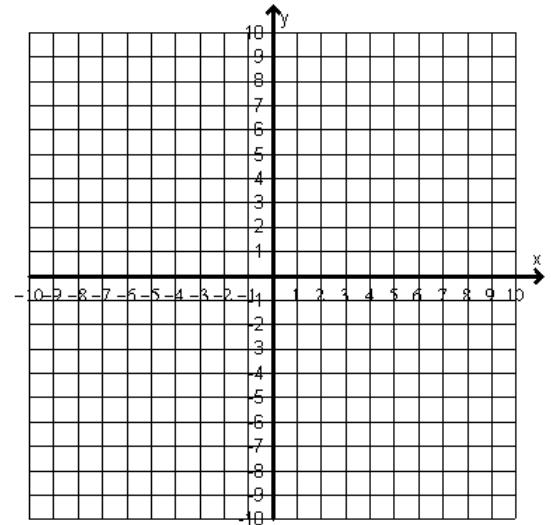
(c) State the coordinates of one point that does not lie in A .

8.) Consider the system of linear inequalities

(a) Graph this system.

$$3x - 3y \leq 9$$

$$2x + 2y \leq 8$$



(b) State the coordinates of one point that lies in A

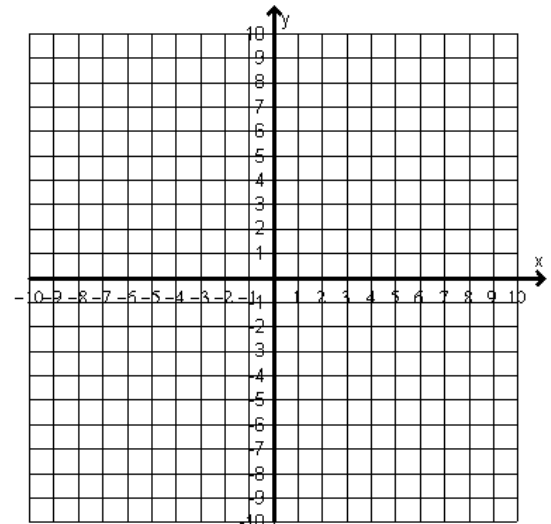
(c) State the coordinates of one point that does not lie in A .

9.) Consider the system of linear inequalities

(a) Graph this system.

$$x \geq -2$$

$$y < 3$$



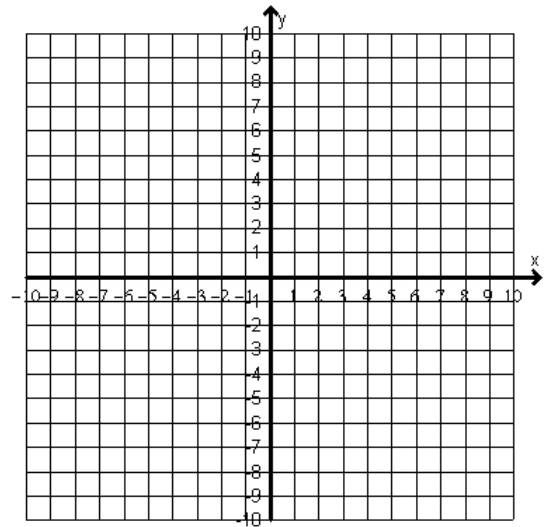
(b) State the coordinates of one point that lies in A

(c) State the coordinates of one point that does not lie in A .

10.) Consider the system of linear inequalities

(a) Graph this system.

$$\begin{cases} y \geq -x + 7 \\ 2x - y > 4 \end{cases}$$



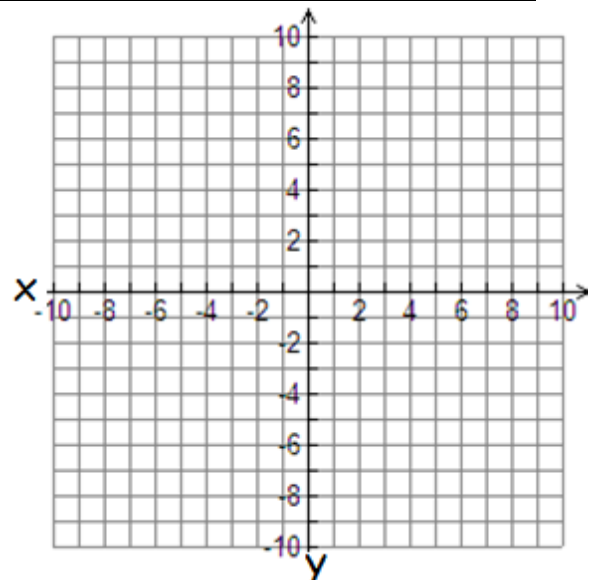
(b) State the coordinates of one point that lies in A

(c) State the coordinates of one point that does not lie in A .

11.) Macys sells shoes and belts. The store makes a \$5 profit on the sale of shoes (x), but loses \$4 on the sale of each belt (y). The store wants to make a profit of at least \$20 from the sale of shoes and belts.

They also sell t-shirts and sweaters. They make a \$6 profit on the sale of t-shirts (x), and a profit of \$4 on the sale of each pair of pants (y). The store wants to make a profit of at least \$24 from the sale of t-shirts & sweaters.

Write & Graph the inequalities that describes both situations and choose a solution.



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