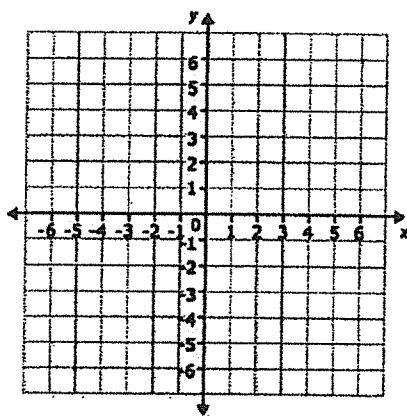


HW # 32
Algebra P3

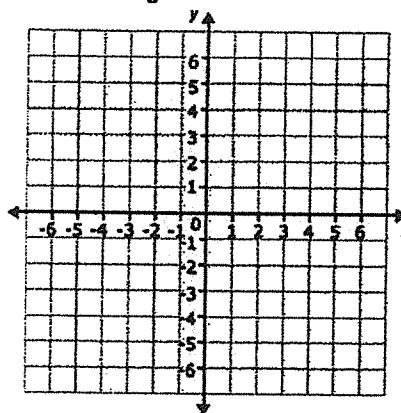
Inequalities

Graph each system.

1.
$$\begin{cases} 2x - 5y > 10 \\ x \leq 1 \end{cases}$$



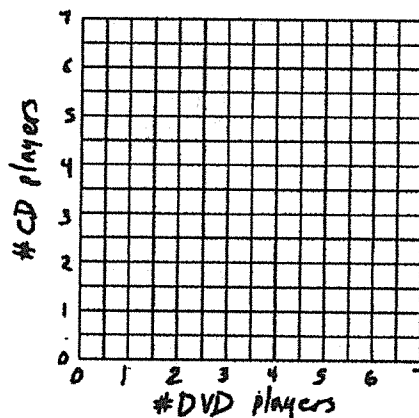
2.
$$\begin{cases} \frac{x+y}{-2} > 1 \\ y \geq \frac{1}{3}x \end{cases}$$



3. An electronics store makes \$125 profit on every DVD player it sells and \$100 on every CD player it sells. The store owner wants to make a profit of at least \$500 a day selling DVD players and CD players.

a) Write a linear inequality to determine the number of DVD players, x , and the number of CD players, y , that the owner needs to sell to meet his goal.

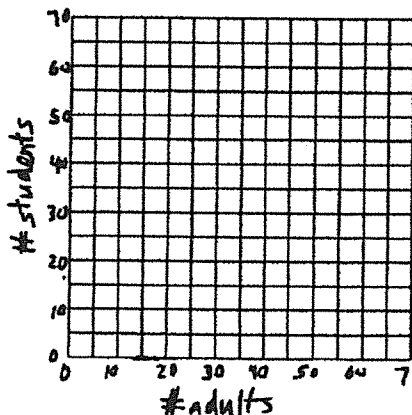
b) Graph the linear inequality.



c) Name a solution to the inequality that does not make sense in the context of this problem. Why does it not make sense?

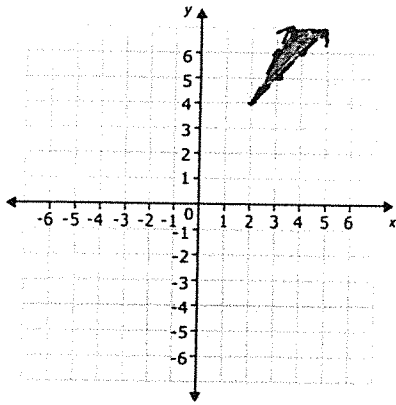
d) List three possible combinations of DVD players and CD players that the owner could sell to meet his goal.

4. At a high school football game, tickets at the game cost \$7 per adult and \$4 per student. Write a linear inequality to determine the number of adult and student tickets that need to be sold so that the amount of money taken in at the gate is at least \$280. Graph the inequality and list three possible solutions.

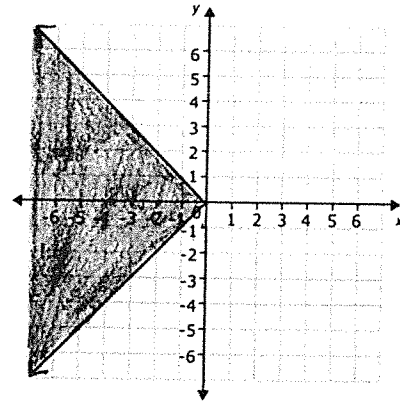


Find the systems of inequalities whose solution sets are graphed below.

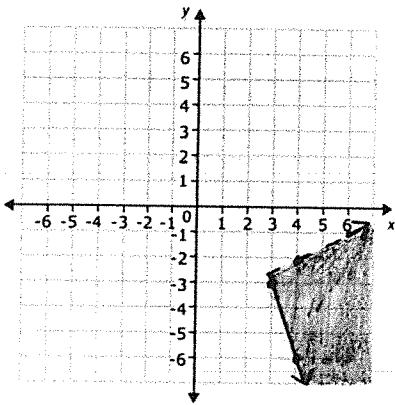
5.



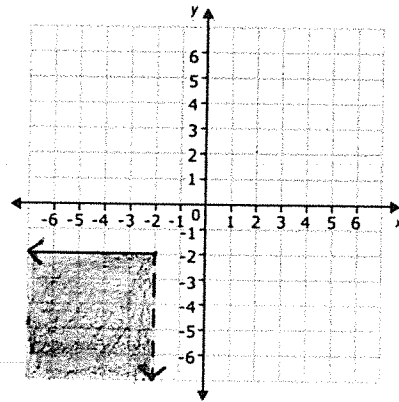
6.



7.

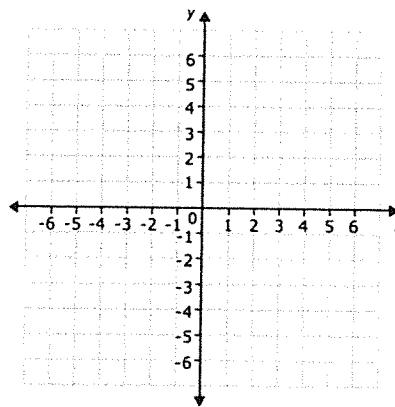


8.



9. Graph the system of inequalities and use your graph to answer the following questions.

$$\begin{cases} y > 2x - 4 \\ y \leq -\frac{2}{3}x - 1 \end{cases}$$



- List two points that are a solution to both inequalities.
- List two points that are not a solution to either inequality.
- List two points that are a solution to $y > 2x - 4$ but not to $y \leq -\frac{2}{3}x - 1$.
- List two points that are a solution to $y \leq -\frac{2}{3}x - 1$ but not to $y > 2x - 4$.