

Name: \_\_\_\_\_ Per. \_\_\_\_\_

## **Objective 17 - Assignment List**

**Linear Inequalities:** Graph linear Inequalities and Systems of Inequalities and find the solutions.

**Monday** Can you solve a problem using systems of equations?

1/14

**In Class:** *Comparing Graphs 4*

**Watch:** *Graphing Linear Inequalities*

**Tuesday** What do inequalities look like on graph paper?

1/15

**In Class:** *Broccoli and Carrots*

**Watch:** *Holt Video: Graph Linear Inequalities 6-6*

**Wednesday** How do you graph an inequality?

1/16

**In Class:** *Three Little Pigs Pizzazz D-30 & D-31*

**Watch:** *Systems of Linear Inequalities*

**Thursday** How do you decide what the border line looks like?

1/17

**In Class:** *Finish Little Pigs Pizzazz*

**At Home:** *Holt Video: Graph Systems of Linear Inequalities 6-7*

### **QUIZ 17 - DEADLINE**

**Friday** Where do you find the solution to a system of inequalities?

1/18

**In Class:** *Systems Problems*

Parent sign: \_\_\_\_\_

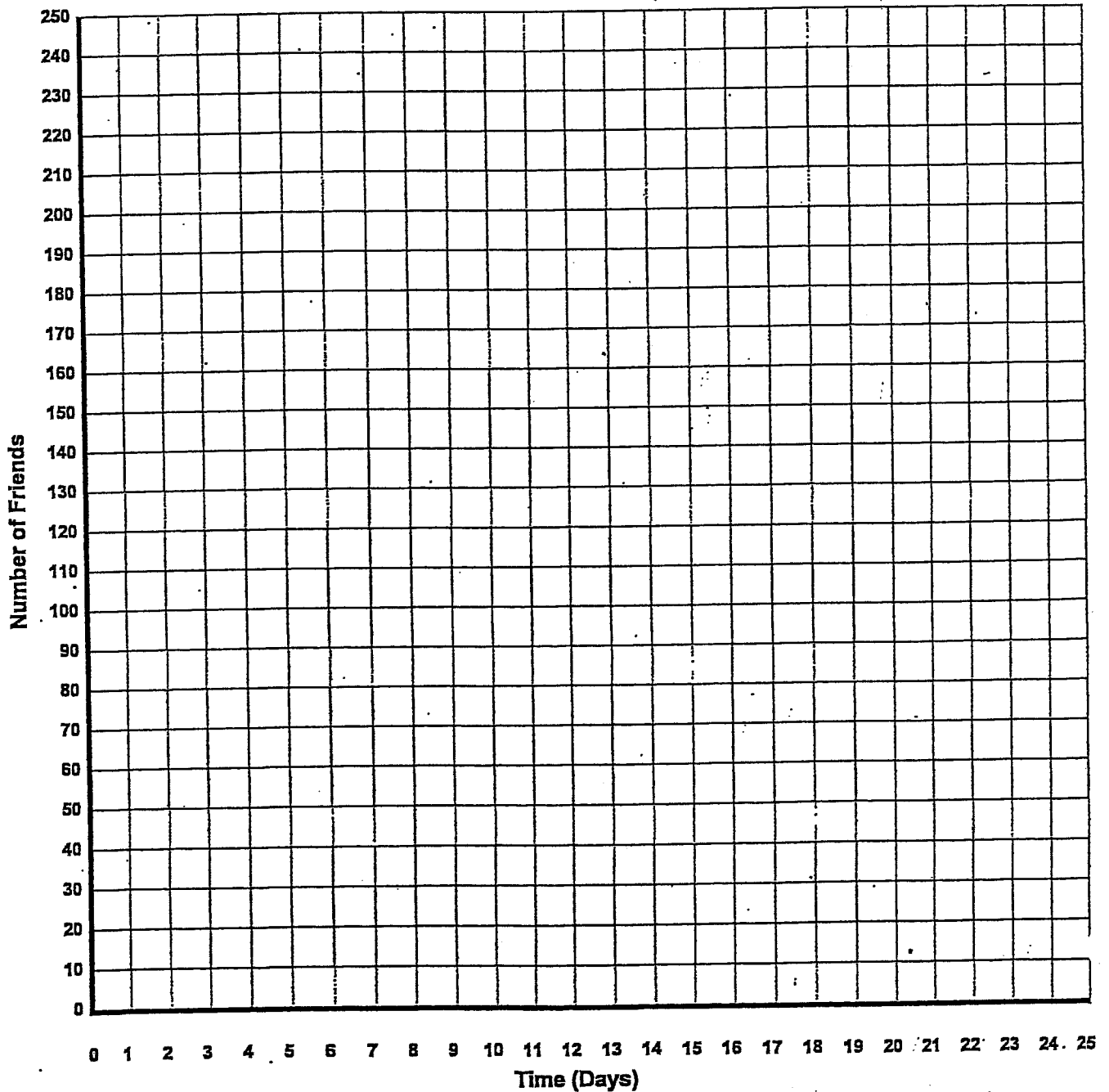
# Comparing Graphs 4

Name \_\_\_\_\_

Suppose Gabriela has no friends when she first moves to East High. But she makes 10 new friends each day. Meanwhile, a boy named Troy starts with 260 friends. Suppose he loses 10 friends each day. When will they have the same number of friends? How many friends will they have on that day?

Gabriela	
Days	# of Friends

Troy	
Days	# of Friends



## Comparing Graphs Questions

Name \_\_\_\_\_

Please answer the following questions before making your presentations.

1. What are you measuring on each axis?
2. Describe the appearance of the two graphs (for example, is one graph steeper than the other? why? are they going in the same or different direction? why?)
3. What is the significance of the starting point of each graph? At time zero why are the graphs at the same point or at different points?
4. Where do the lines intersect? What is the significance of this point?
5. Write an equation for each person's situation. Solve this system of equations with either substitution or elimination.

Broccoli is \$1.25 per bunch and carrots are \$0.75 per package. Your mom gave you \$7.50 to go to the store and buy broccoli and carrots.



**Sale Price**  
\$1.25



**Sale Price**  
\$0.75

What can you buy? Write 3 sentences to defend your answer.

If you only bought carrots, how many packages could you buy? Write 1 sentence to defend your answer.

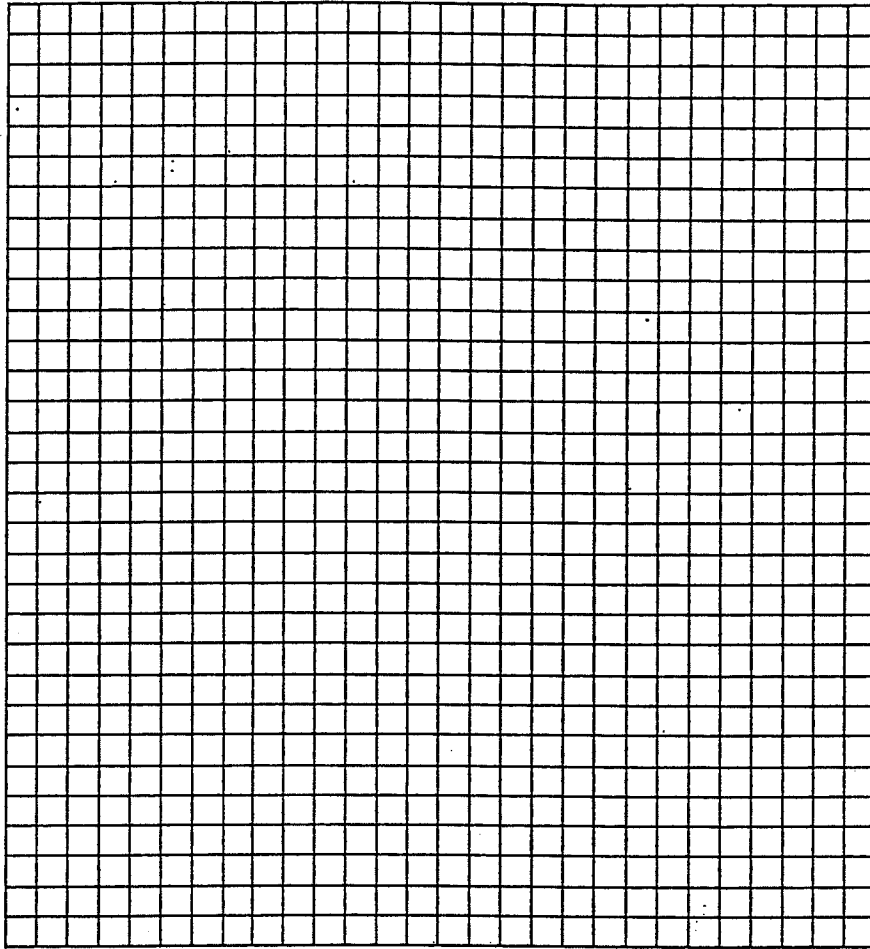
If you only bought broccoli, how many packages could you buy? Write 1 sentence to defend your answer.

List all the possible combinations of broccoli and carrots that you could buy. Organize your solutions as ordered pairs (broccoli, carrots).

Graph the possible combinations, don't forget to label your graph!

Possible combinations

Graph

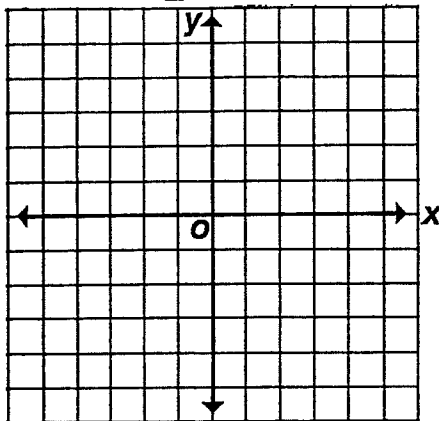


Write an inequality that fits the graph above. Write two sentences justifying why your inequality works.

# Why Did the Three Pigs Leave Home?

Graph each inequality below. Circle the letter of the statement that correctly describes the location of the graph. Print this letter in each box at the bottom of page 31 that contains the number of the exercise.

①  $y \geq \frac{1}{2}x - 3$

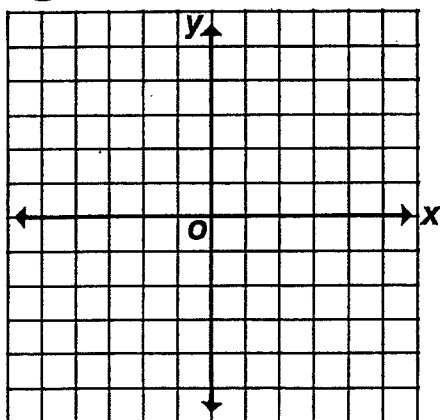


D Quadrants I, II, IV;  
includes boundary line.

E All four quadrants;  
includes boundary line.

I Quadrants I, III, IV;  
excludes boundary line.

③  $y \leq 2x - 2$

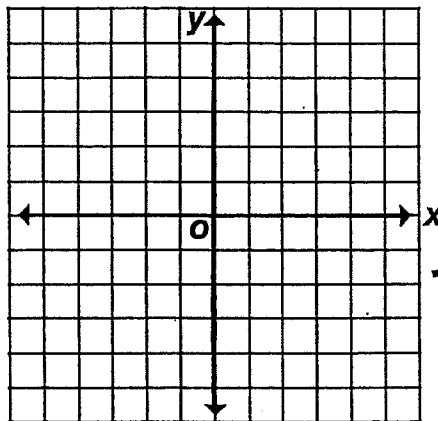


L Quadrants I, II, IV;  
includes boundary line.

T Quadrants I, III, IV;  
includes boundary line.

V All four quadrants;  
excludes boundary line.

②  $x + y > 1$

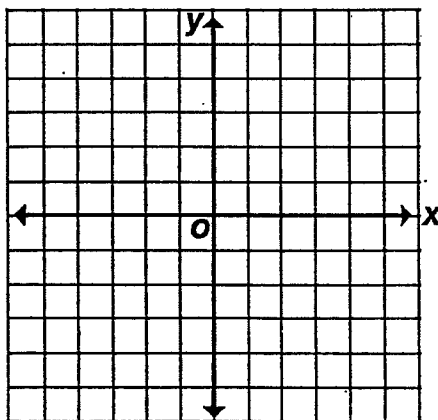


S Quadrants I, II, IV;  
excludes boundary line.

B All four quadrants;  
includes boundary line.

F Quadrants I, III, IV;  
excludes boundary line.

④  $3x + 2y < 6$

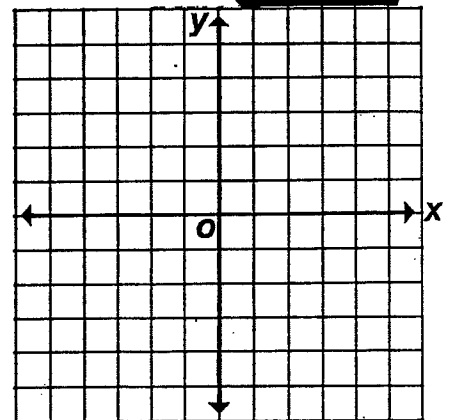


C Quadrants II, III, IV;  
excludes boundary line.

M Quadrants I, II, IV;  
includes boundary line.

O All four quadrants;  
excludes boundary line.

⑤  $y \geq 2$



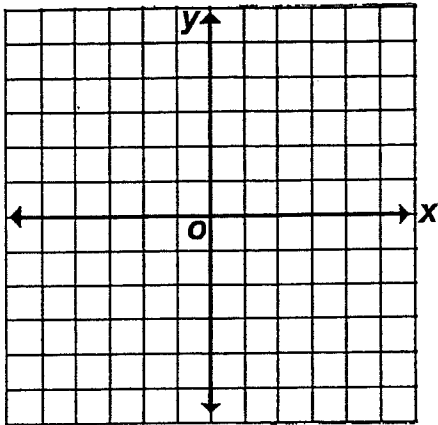
R All four quadrants;  
excludes boundary line.

U Quadrants II, III;  
includes boundary line.

H Quadrants I, II;  
includes boundary line.

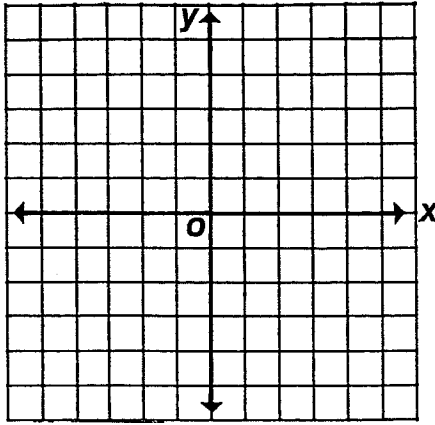


⑥  $x < -3$



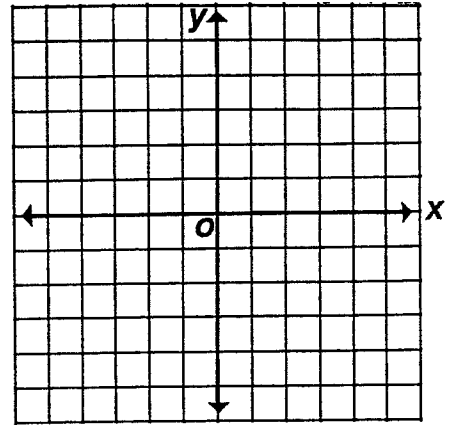
- L Quadrants I, II;  
excludes boundary line.
- W Quadrants II, III;  
excludes boundary line.
- G Quadrants I, III;  
excludes boundary line.

⑦  $2x - 3y \leq 12$



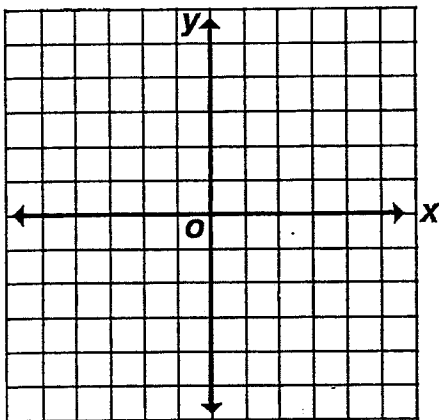
- K Quadrants I, III, IV;  
excludes boundary line.
- U Quadrants II, III, IV;  
includes boundary line.
- I All four quadrants;  
includes boundary line.

⑧  $5x + 3y < x + 6$



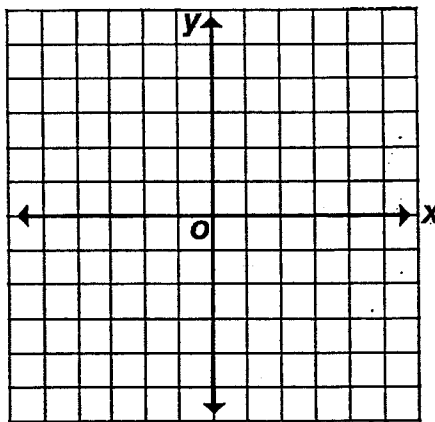
- F All four quadrants;  
excludes boundary line.
- P Quadrants I, II, III;  
excludes boundary line.
- M Quadrants I, III, IV;  
excludes boundary line.

⑨  $3x + y > 0$



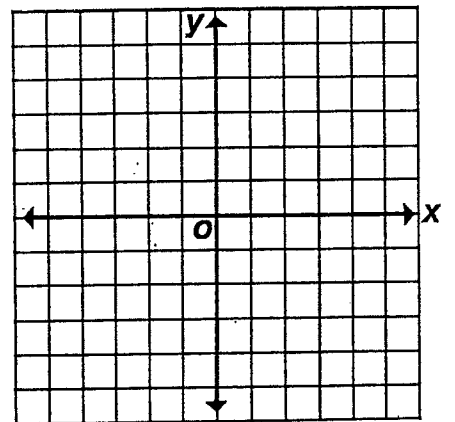
- R Quadrants I, II, IV;  
excludes boundary line.
- L All four quadrants;  
includes boundary line.
- M Quadrants I, III, IV;  
excludes boundary line.

⑩  $2(x - y) \geq 5$



- Y All four quadrants;  
excludes boundary line.
- U Quadrants II, III, IV;  
includes boundary line.
- A Quadrants I, III, IV;  
includes boundary line.

⑪  $5y - 2 \geq 3x - 7$

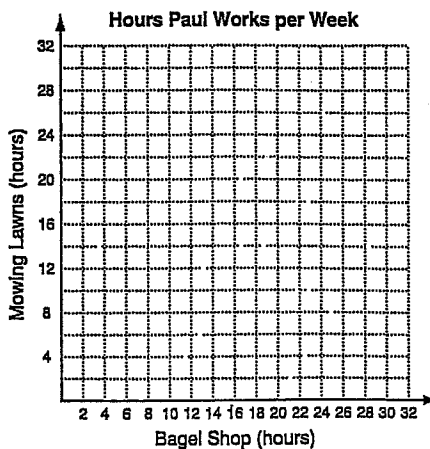


- N Quadrants I, III, IV;  
excludes boundary line.
- B All four quadrants;  
includes boundary line.
- D Quadrants I, II, IV;  
includes boundary line.

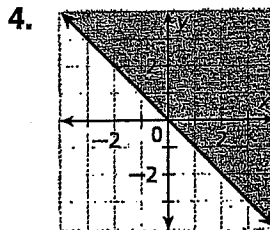
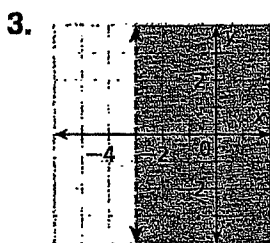
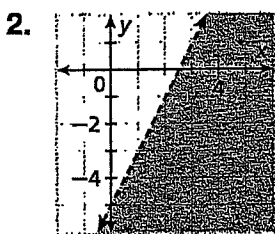
3	5	1	7	9	8	10	3	5	1	9	6	10	2	10	11	4	10	9
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# Systems Problems

1. Paul earns \$7 per hour at the bagel shop and \$12 per hour mowing lawns. Paul needs to earn at least \$120 per week, but he must work less than 30 hours per week. Write and graph the system of linear inequalities that describes this situation.

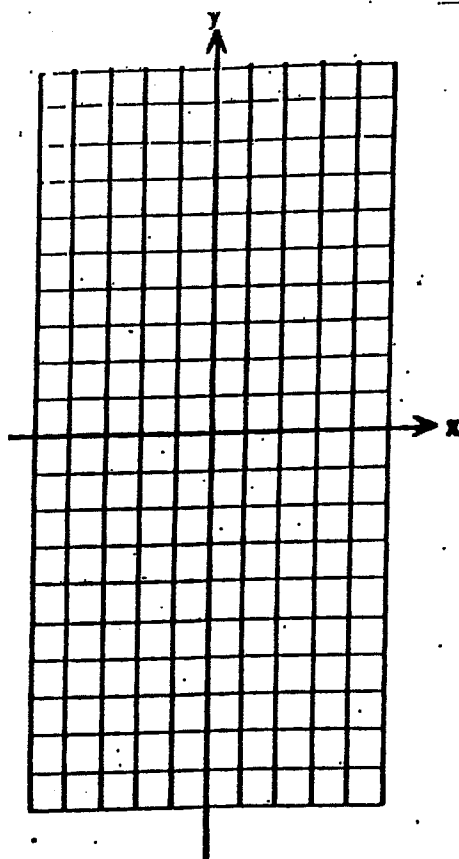


Write an inequality to represent each graph.

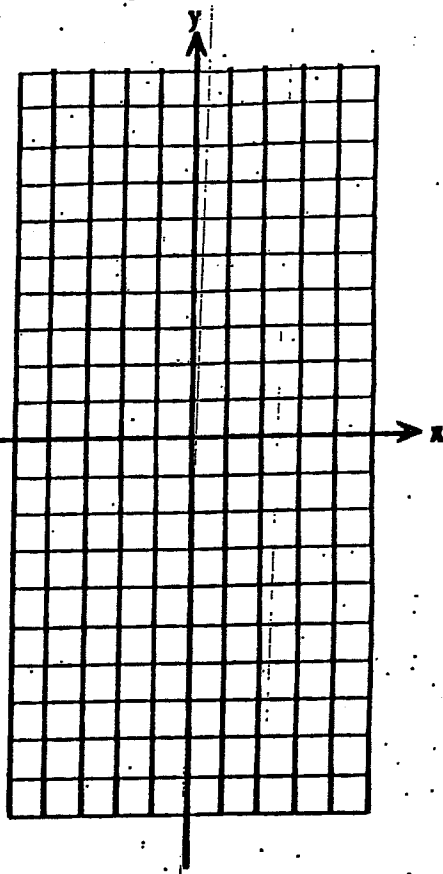


Graph each system of linear inequalities. Give two ordered pairs that are solutions and two that are not solutions.

5.  $y \leq -3x + 4$   
 $y > 2x - 4$



6.  $x < 3$   
 $y > x - 2$



7.  $y \leq x + 4$   
 $y \geq -2x - 6$

