Name:_____ Period:_____

Score:

_____/_____

_____%

**HW 6-1 HONORS: Graphing Inequalities & Writing Equations**

1. When you go to Little Caesar's to buy food for a family party, you find out they charge $5 for each pizza and $2 for an order of breadsticks. You spend $50 on the food (before tax).

   $x =$ Pizza    $y =$ breadsticks

   a. Write an equation to represent this situation.

   $$5x + 2y = 50$$

   b. List three different combinations of pizza and breadsticks you could have purchased.

   *answers may vary*

2. You purchase a car for $6000. The car depreciates in value by 8% each year. Write an equation to represent this situation.

3. You purchase movie tickets for a group to attend the first showing of a movie. It costs $10 for each adult ticket and $6.00 for each child ticket. You spent $60 on the tickets (before tax).

   a. Write an equation to represent this situation.

   b. List three different combinations of child and adult tickets you could have purchased.

4. Dave is going on a backpacking trip. He has packed 62 pounds of food for the trip in his backpack. To ensure he has enough food for the trip he is eating 3 pounds of food each day. Write an equation to represent this situation.
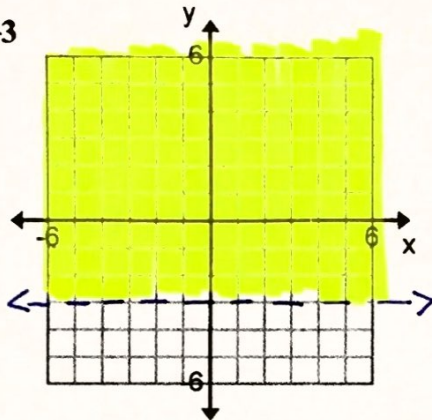
5. The city of Pythagoras started with a population of 34,000 people. The city was growing at a rate of 5% each year. Write an equation to represent this situation.
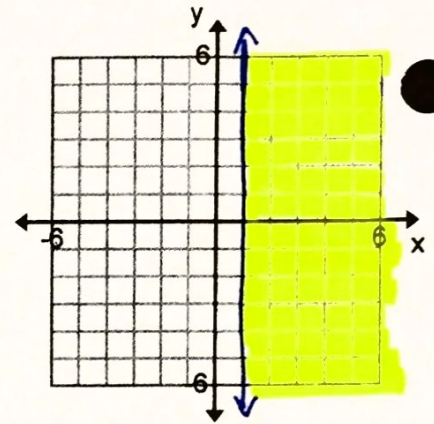
   $$y = 34000(1.05)^t$$

6. Becca is saving for a trip this summer. She starts a savings account with $20. She earns $5 per week in allowance that she plans on putting into the account. Write an equation to represent this situation.
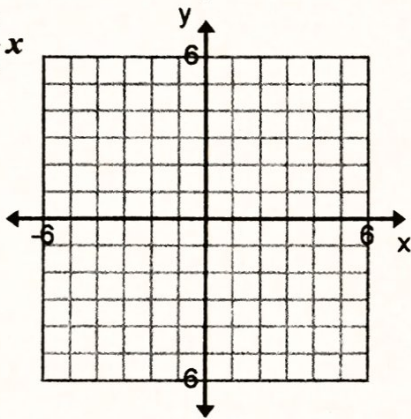
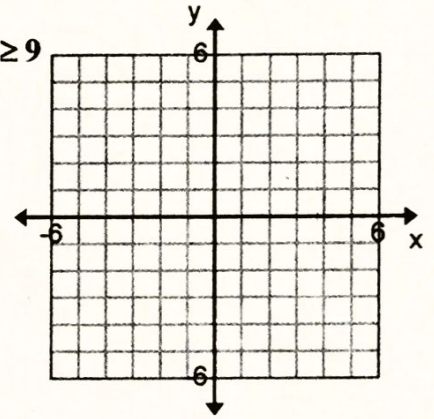**Sketch a graph of the linear inequality.**

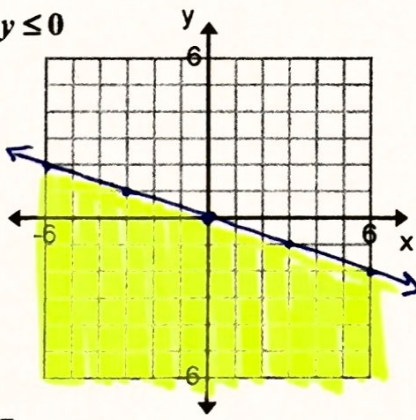7. $y > -3$



11. $x \geq 1$



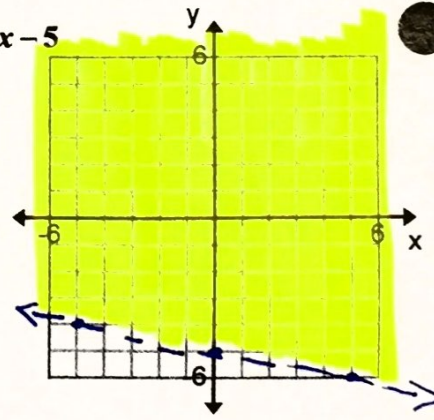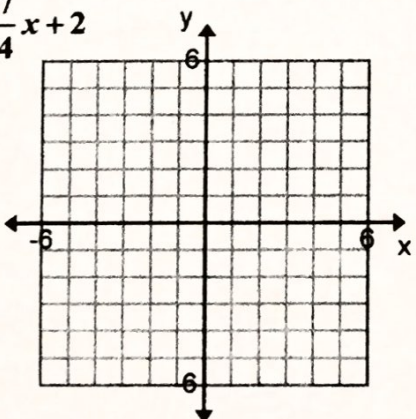8. $y \leq \frac{3}{4}x$



12. $7x - 3y \geq 9$



9. $x + 3y \leq 0$



13. $y > -\frac{1}{5}x - 5$



10. $y \geq \frac{7}{4}x + 2$



14. $x + 4y \geq -4$