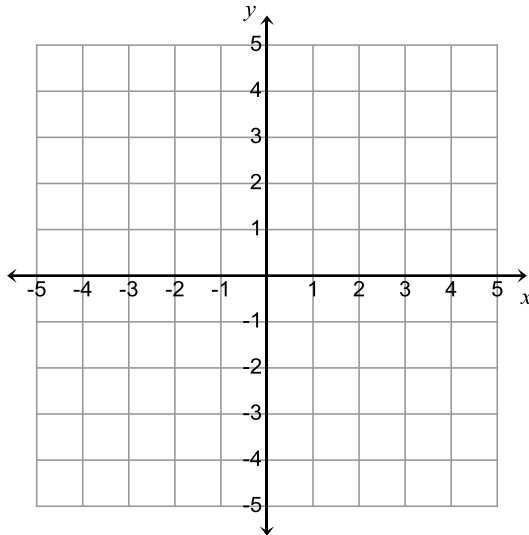**Algebra 1 B**

Name _____

Unit 7 Review

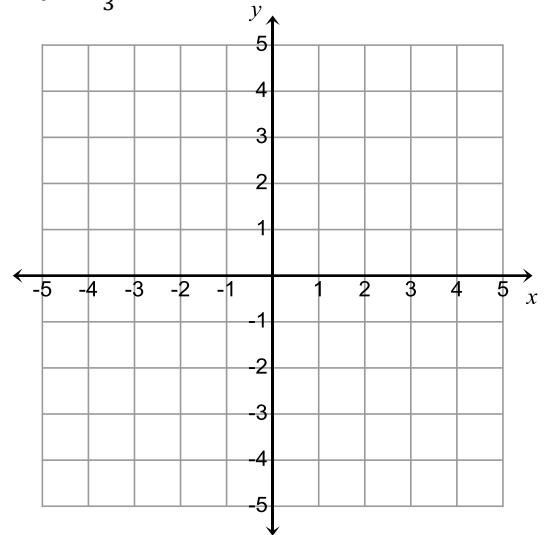**Period** _____ **Date** _____

Objective 1 – Graph the solution to a linear inequality
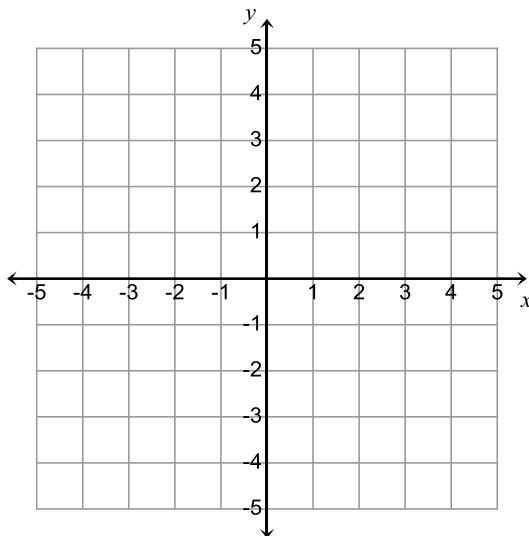
1. $y \geq -2x + 3$
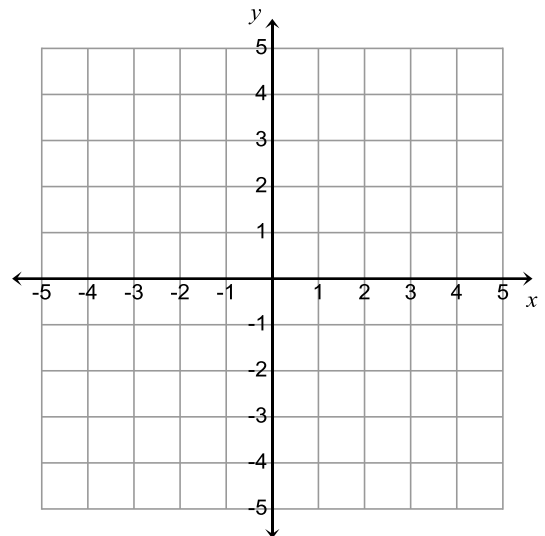
2. $y < \frac{2}{3}x - 4$

3. $x - 2y > 6$

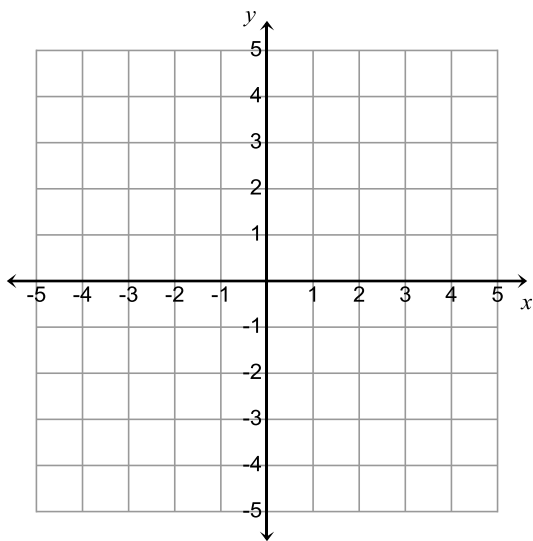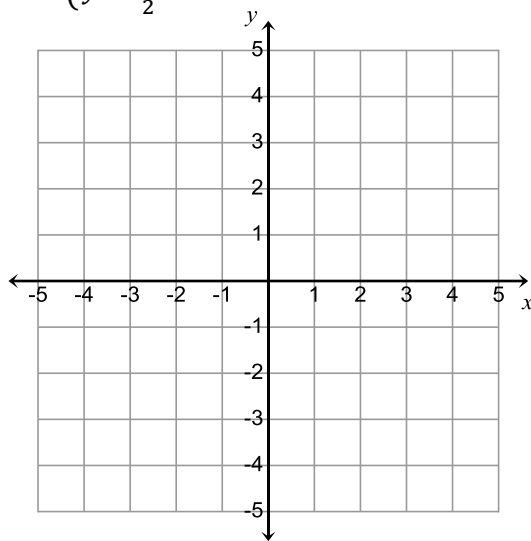4. $x + 3y \leq -9$

Objective 2 – Solve a system of linear inequalities by graphing
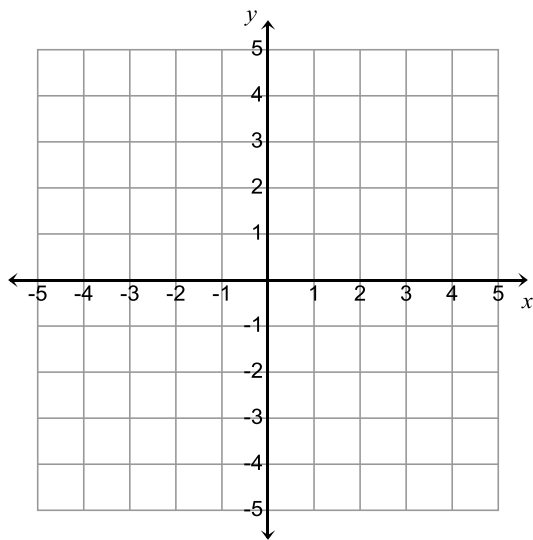
5. $\begin{cases} x \leq -1 \\ y > x \end{cases}$

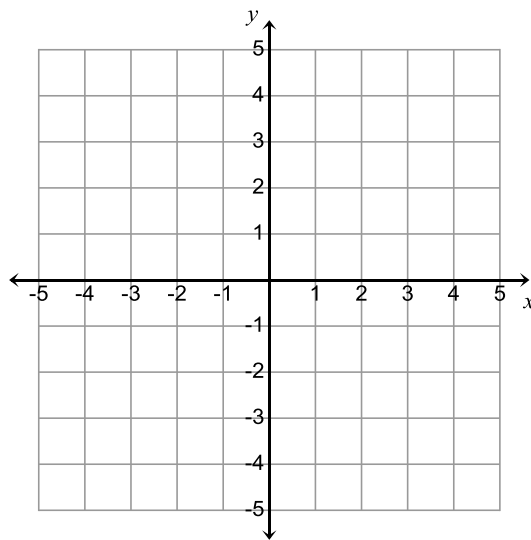6. $\begin{cases} y \leq -x - 3 \\ y < \frac{1}{2}x + 2 \end{cases}$

7. $\begin{cases} x + 2y > -4 \\ 2x - y > -3 \end{cases}$
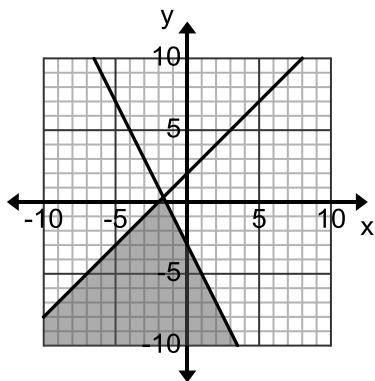
8. $\begin{cases} x - y \leq 4 \\ y \leq -3 \end{cases}$

Objective 3 – Determine whether a point is a solution to a system of inequalities

9. Is the point $(-1, 4)$ a solution to the system $\begin{cases} 3x + 2y \geq 2 \\ 2x - y < -8 \end{cases}$
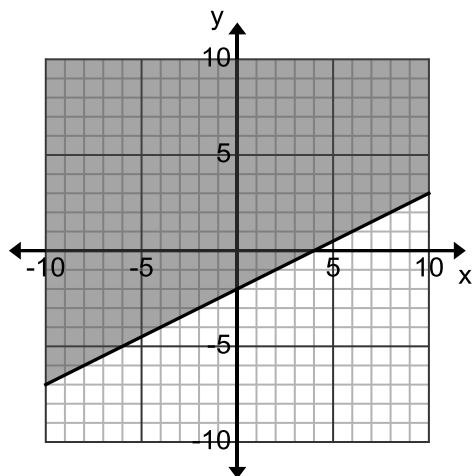
10. Is the point $(3, -2)$ a solution to the system $\begin{cases} 3x + 2y \geq 5 \\ 2x - y < 10 \end{cases}$

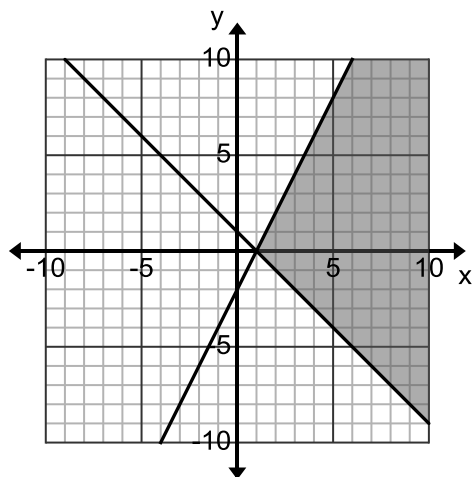11. Is the point $(-3, -4)$ a solution to the system graphed below?

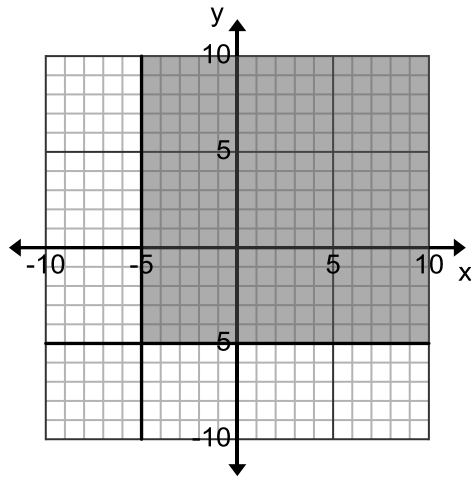## Objective 4 – Write a linear inequality or system of linear inequalities given a graph

12.

13.

14.

Objective 5 – Write, solve, and interpret systems of inequalities in a word problem

15. Ms. Watson wants to buy donuts and muffins for the18 math faculty members so that each member gets at least 1 item. The most she wants to spend is $25. Donuts cost $0.75 each and muffins cost $1.50 each. Write a system of inequalities to represent the number of donuts, d, and muffins, m, that Ms. Watson could buy.

16. Mr. Chilcoat got a $30 i-tunes gift card for Christmas and wants to buy some Justin Bieber songs and some One Direction songs. Songs cost $1.00 each for Justin Bieber and $2.00 each for One Direction. He has room on his i-pod for at most 20 total songs.

   a. Write a system of inequalities where x is the number of Bieber songs purchased and y is the number of One Direction songs bought.

b. Graph the system and label your axis appropriately.
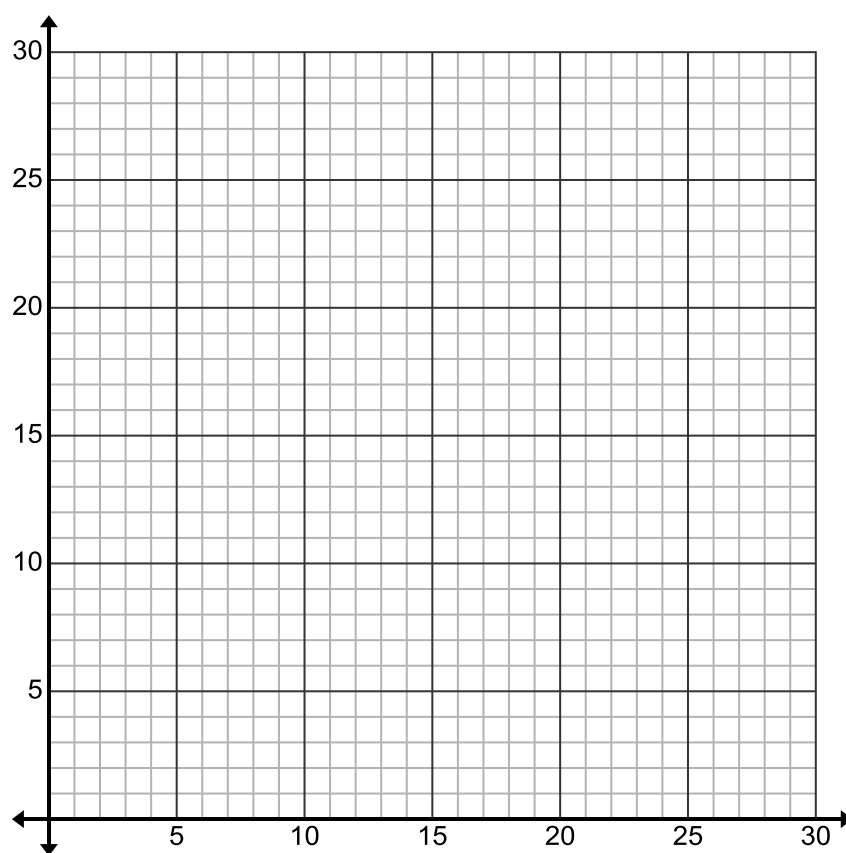
c. Give one possible combination of songs that he could buy.