Name _____ Class _____ Date _____

6-6 Practice

Form K

Systems of Linear Inequalities

Solve each system of inequalities by graphing.

1. $y \leq 2x - 1$
$y \geq -x + 3$

2. $3x - 2y \leq 4$
$x + 3y \leq 6$

3. $x + y \geq -3$
$2x + 2y \leq -2$

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

5. **Writing** Describe when you use a solid line or a broken line when graphing inequalities. What does each type of line mean?

6. **Open-Ended** Create a system of inequalities that has no solution. Demonstrate by drawing a graph.

7. The owner of an ice cream stand needs to order waffle cones and sugar cones. There is room to store 10 boxes of cones. Each box of sugar cones costs $100, and each box of waffle cones costs $150. He has $1250 budgeted for the purchase of cones.

a. What variables will you use?

b. How will you decide which inequality signs to use and where to shade?

c. What system of inequalities represents the information?

6-6 Practice (continued)

Form K

Systems of Linear Inequalities

Determine whether the ordered pair is a solution of the given system.

8 $(2, -1)$; $3 - 3y \leq 3y$
$3y > 2x + 1$

9. $(-3, -3)$; $5x + 4y > -4$
$2x + 3y > 2$

10. A friend makes $15 per hour at his first job and $11 per hour at his second job. His goal is to make at least $600 per week. He does not want to work any more than 55 hours in a week. Write a system of inequalities for the given situation and graph the inequalities.

11. For the school fundraiser, a class is selling stationery and greeting cards. The goal for the class is to sell at least 100 items. The school receives $2.50 for each stationery set that is sold and $3 for each set of greeting cards that is sold. The goal is to raise at least $300. Write a system of inequalities for the given situation and graph the inequalities.

12. A woman is purchasing fruit for some pies she is making for a party. She wants to purchase at least 10 pounds of strawberries and blueberries. Strawberries are sold for $2 per pound, and blueberries are sold for $3 per pound. She does not want to spend more than $25 total for the fruit. Write a system of inequalities for the given situation and graph the inequalities.

Solve each system of inequalities by graphing.

13. $3x + 4y < -14$
$x - 3y \geq 17$

14. $x - 5y - 6 \geq 0$
$2x + 4y + 1 \leq -1$