Systems of Inequalities Word Problems Classwork

Name_____ **Class Period**_____

Set up the equations for each word problem. Make sure you define your variables!

1. You can work a total of no more than 41 hours each week at your two jobs. Housecleaning pays $5 per hour and your sales job pays $8 per hour. You need to earn at least $254 each week to pay your bills. Write a system of inequalities that shows the various numbers of hours you can work at each job.

X = Housecleaning
Y = sales job.

$5x + 8y \geq 254$
$x + y \leq 41$

2. Members of a school booster club want to sell at least 10 school jackets and at least 21 caps during a fundraiser to cover their regular club expenses. The club will make $14 for every jacket sold and $2 for every cap sold. The club also wants the total amount of money earned to be at least $300. Write a system of inequalities that shows how many jackets and caps the club members need to sell to meet the conditions above.

x = jackets
y = caps

$14x + 2y \geq 300$

$x \geq 10$ (vertical)

$y \geq 21$ (horizontal)

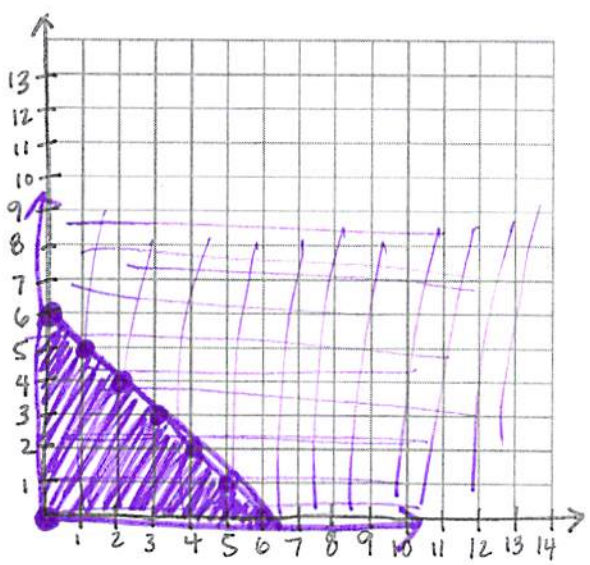
3. A salad contains ham and chicken. There are at most 6 pounds of ham and chicken in the salad. Write a system of inequalities to represent this situation.

x = ham
y = chicken

$x + y \leq 6$

$x \geq 0$ (vertical)

$y \geq 0$ (horizontal)



$x + y \leq 6$
$-x \quad -x$
$y \leq -x + 6$