

Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Class: \_\_\_\_\_

Algebra  
Unit 5  
HW 5-4

- 1) Shana bought sodas and popcorn for the movies. Sodas cost \$3 each and popcorn cost \$4 per bag. Shana bought 7 things from the concession, all either sodas or bags of popcorn. Shana spent a total of \$26. Write a system of equations involving the number of sodas,  $s$ , and the bags of popcorn,  $b$ . Solve the system to see how many of each Shana bought.

- 2) Find the solution to the system of equations graphically:

$$f(x) = 2|x + 1| - 8 \quad \text{and} \quad g(x) = x - 1$$

- 3) Solve the following system of equations graphically:

$$y = 4 - x \quad \text{and} \quad y = -x^2 + 4x$$

- 4) Using a graph, solve the following equation:  $x^2 + 2x - 8 = 2x + 1$

5) Using a graph, solve the following equation:  $x^2 - 8 = |2x|$

6) Solve the following system of equations using whatever method you prefer:  
 $2x = 3 + 3y$  and  $6y + 4 = 8x$

7) Is  $(-8, -6)$  a solution to the system  $4x + 6y = 4$  and  $2y - 3x = 12$ ?