Name: _____ Date: _____ Period: _____

Unit 4 Day 7 - Writing Systems of Equations Part 2 Classwork

For each problem define your variables, write a system of equations, and solve the system of equations.

1. Harry Potter Snacks:

a) What do you notice?

b) What do you wonder?

c) What would your variables be in this situation?

d) Write a system of equations to help you solve the problem without guessing and checking.

e) Solve the system:

2. Coin Star:

a) What kinds of coins there are:

b) **Estimate** *how many total coins there are:*

c) **Estimate** *what the coins are worth all together:*

d) Now copy down the actual value of the coins:

e) Give a possible solution for how many of each coin there are: (make sense of the problem)

f) Copy down the actual total number of coins:

g) Define what the variables would be in this problem:

h) Write a system of equations:

i) Solve the system and answer the question:

3. After no small amount of controversy on the World Wide Web, it has been proven that Double Stuf Oreos do actually contain twice the filing of regular Oreos.

Two Double Stuf cookies have 140 calories. Three regular Oreos have 160 calories.

If I scrape out the filling from Double Stuf Oreos, and only eat the wafers, but my husband eats all the fillings and no wafers, who is getting more calories?

a) What would your variables be?

b) Write a system of equations to help you solve the problem without guessing and checking.

c) Solve the system and answer the question:

4. At the movies, a customer can purchase a refillable "Mega Mug" for $15.25, then pay $1.75 every time they want to fill the mug with soda. Or a customer could just buy a medium soda in a disposable cup which holds the same amount as the Mega Mug, and pay $5 each time. How many times would a customer have to use the Mega Mug to make it worth the price?

a) What are your variables? What do they represent?

b) Write a system of equations to help you solve the problem.

c) Solve the system.

5. A stack of 11 original Oreo cookies is exactly 130 mm tall. A stack of 9 Double Stuf Oreos is also exactly 130 mm tall. How thick is one wafer? How thick is the filling in an original cookie? Assume (this has been scientifically proven) that Double Stuf Oreos have exactly twice as much filling as original Oreos.

a) What are your variables? What do they represent?

b) Write a system of two equations for this situation.

c) Solve the system.