**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_\_**

**U9 CW #4** *Systems of Equations in Real World*

**Directions:** For each of the following problems:

1. Identify your variables (x and y)
2. Create a System of Linear Equations that you would use to solve each problem. (You do not need to solve.)

1. In 1982, the US Mint changed the composition of pennies from all copper to zinc with copper coating. Pennies made prior to 1982 weigh 3.1 grams. Pennies made since 1982 weigh 2.5 grams. If you have a bag of 1,254 pennies, and the bag weighs 3,508.8 grams, how many pennies from each time period are there in the bag.

2. Blake has some quarters and dimes. He has 20 coins worth a total of $2.90. How many of each type of coin does he have?

3. Ruby and Will are running a team relay race. Will runs twice as far as Ruby. Together they run 18 miles. How far did each person run?

4. Sarah has $400 in her savings account and she has to pay $15 each month to her parents for her cell phone. Darius has $50 and he saves $20 each month from his job walking dogs for his neighbor. At this rate, when will Sarah and Darius have the same amount of money? How much money will they teach have?

**Directions:** For each of the following problems:

1. Identify your variables (x and y)
2. Create a System of Linear Equations that you would use to solve each problem.
3. Put both equations in slope-intercept form.
4. Graph the system and identify the solution.

5.