Systems of Linear Equations
Additional Problems

1. You are going to a baseball game at Camden yards. A parking garage down the street from the ballpark charges a flat fee of $10 and $0.50 per hour for parking. A parking garage across the street from the ballpark charges a flat fee of $5 and $1.50 per hour for parking.
   - For each parking garage, write an equation that represents the total costs for parking.
   - Graph the two equations.
   - Determine after how many hours the cost would be the same for both parking garages. What is the cost for this amount of time? Use mathematics to explain how you determined your answers. Use words, symbols or both in your explanation.

2. Jack and Jill both mow lawns on weekends. Jack bought a new mower this year and determined that his profit equation for mowing lawns this year is $P = 15N – 300$ where P is his total profit and N is the number of lawns he has mowed. Jill also bought a new mower this year and determined that her profit equation for mowing lawns this year is $P = 20N – 450$.
   - Interpret the meaning of the –300 and the –450 in the equations in the context of the problem.
   - Solve the system of profit equations. What does this point mean in the context of the problem? Use mathematics to justify your answer.

3. Writing a check without having enough money in the bank is called bouncing a check. One store in the mall charges a 6% penalty on the amount of the check and a $5 fee for bouncing a check. Another store in the mall charges only a $15 fee for bouncing a check.
   - When will the total cost of bouncing a check be the same for both stores? Use mathematics to justify your answer.
   - What is the total cost at both stores for bouncing a $55.00 check? Use mathematics to explain how you determined your answers. Use words, symbols, or both in your explanation.

4. Mary's two favorite aunts send her money every year on her birthday. Mary's parents put the money into a savings account for Mary. Aunt Cleo decided to give Mary $50 for her first birthday and $5 every birthday after that. Aunt Cheryl decided to give Mary $10 for every birthday.
   - Determine when Mary has received the same amount of money from both aunts. Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.