Name: _____ Class: _____ Date: _____ ID: A

Lesson #16 B: Understanding and Solving Systems of Equations-Applications of Linear Systemts of Equations (Reference: Lesson #55, #59 & #63 in book)

Problem

1. **For each of the following application word problems, please create two equations from the given information and then solve the system of equations using the method of your choice. (SHOW ALL OF YOUR WORK.)**

   1. A school play charged adults $16 and students $10 for tickets. There were 75 people who attended the play. The box office collected $888. How many adults and how many students attended the play?

2. Tickets to a summer concert cost either $12 for grass or lawn seats or $15 for pavillon seats. A total of 300 tickets are sold, and the total receipts were $4140. How many of each kind of ticket were sold?

3. Harold had a summer lemonade stand where he sold small cups of lemonade for $1.25 and large cups for $2.50. If Harold sold a total of 155 cups of lemonade and collected a total of $265, how many cups of each type did he sell?

4. A catering company is setting up tables for a big event that will host 764 people. When they set up the tables they need 2 forks for each child and 5 forks for each adult. If the company ordered a total of 2992 forks, how many adults and how many children will be attending the event?

5. The school that Stefan goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 1 child ticket for a total of $38. The school took in $52 on the second day by selling 3 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

6. Lakota bought 6 new compact disks and 2 used compact disks for $127.92. At the same prices, Mackenzie bought 3 new compact disks and 8 used compact disks for $133.89. Find the cost of buying a single used compact disk.

7. Ilida went to Minewaska Sate Park one day this summer. All of the people at the park were either hiking or bike riding. There were 178 more hikers than bike riders. If there were a total of 676 people at the park, how many were hiking and how many were riding their bikes?

8. Galina spent $3.60 for stamps to mail packages. Some were 30¢ stamps and the rest were 20¢ stamps. The number of 20¢ stamps was 2 less than the number of 30¢ stamps. How many stamps of each kind did Galina buy?