Accelerated Math 8　　　　　　　　　　　　　　　　　Name_____

Linear Systems Word Problems

Period____

1) When you reverse the digits in a certain two-digit number you decrease its value by 18. What is the number if the sum of its digits is 6?

2) A boat traveled 216 miles downstream and back. The trip downstream took 9 hours. The trip back took 54 hours. What is the speed of the boat in still water? What is the speed of the current?

3) A plane traveled 1380 miles to Rome and back. The trip there was with the wind. It took 10 hours. The trip back was into the wind. The trip back took 15 hours. What is the speed of the plane in still air? What is the speed of the wind?

4) When you reverse the digits in a certain two-digit number you decrease its value by 18. What is the number if the sum of its digits is 2?

5) The school that Willie goes to is selling tickets to a play. On the first day of ticket sales the school sold 12 adult tickets and 9 child tickets for a total of $222. The school took in $202 on the second day by selling 11 adult tickets and 8 child tickets. What is the price each of one adult ticket and one child ticket?

6) The senior classes at High School A and High School B planned separate trips to the water park. The senior class at High School A rented and filled 9 vans and 15 buses with 936 students. High School B rented and filled 10 vans and 16 buses with 1004 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?

7) The senior classes at High School A and High School B planned separate trips to the state fair. The senior class at High School A rented and filled 16 vans and 13 buses with 550 students. High School B rented and filled 5 vans and 4 buses with 170 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

8) Chelsea and John each improved their yards by planting rose bushes and ivy. They bought their supplies from the same store. Chelsea spent $67 on 5 rose bushes and 7 pots of ivy. John spent $69 on 3 rose bushes and 9 pots of ivy. Find the cost of one rose bush and the cost of one pot of ivy.

9) The senior classes at High School A and High School B planned separate trips to Yellowstone National Park. The senior class at High School A rented and filled 1 van and 2 buses with 108 students. High School B rented and filled 15 vans and 9 buses with 675 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

10) Stephanie's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 15 senior citizen tickets and 15 child tickets for a total of $210. The school took in $136 on the second day by selling 9 senior citizen tickets and 10 child tickets. What is the price each of one senior citizen ticket and one child ticket?