Secondary Math III Name_____
Solving Systems using Substitution
Assignment 12.2

Solve the system using substitution. Check answers.

1. $\begin{cases} 2x+5y=7 \\ x+4y=2 \end{cases}$

2. $\begin{cases} 6x-2y=6 \\ -3x+y=7 \end{cases}$

3. $\begin{cases} x+4y=1 \\ 3x+2y=-12 \end{cases}$

4. $\begin{cases} 3x-4y=-5 \\ -x+3y=-5 \end{cases}$

5. $\begin{cases} 6x-3y=15 \\ -2x+y=-5 \end{cases}$

6. $\begin{cases} 2x+5y=10 \\ -3x+y=2 \end{cases}$

7. $\begin{cases} 0.03x-0.02y=0 \\ 3x+y=-9 \end{cases}$

8. $\begin{cases} \frac{x}{6}-\frac{y}{2}=\frac{1}{3} \\ x+2y=-3 \end{cases}$

For the following problems, <u>define</u> the variables, <u>write</u> a system of linear equations and <u>solve</u> with substitution in order to answer the question.

9. In one week, a music store sold 9 guitars for a total of $3611. Electric guitars sold for $479 each and acoustic guitars sold for $339 each. How many of each type of guitar were sold that week?

10. An adult pass for a county fair costs $2 more than a child's pass. When 378 adult and 214 child passes were sold, the total revenue was $2384. Find the cost of an adult pass.

11. A total of $15,000 is invested in two corporate bonds that pay 5% and 7% simple annual interest. The investor wants to earn $880 in interest per year from the bonds. How much should be invested in each bond?

12. A resort hotel has 200 rooms. Rooms with kitchen facilities rent for $100 per night and those without kitchen facilities rent for $80 per night. On a night when the hotel was completely occupied, revenues were $17,000. How many of each type of room does the hotel have?