Algebra 2: Palka/Peto
Lesson 3-3 Solving Systems of Equations Algebraically

Name _____
Date _____Period _____

OBJECTIVE: To solve a system of equations using the substitution method

Solve each system of equations by using the substitution method. Write the solution as an ordered pair!

1. $\begin{aligned} 3x-2y&=24 \\ x+2y&=8 \end{aligned}$ **Solution:** _____

2. $\begin{aligned} -x+4y&=-3 \\ -3x+2y&=1 \end{aligned}$ **Solution:** _____

3. $\begin{aligned} 3x-2y&=7 \\ 9x-6y&=21 \end{aligned}$ **Solution:** _____

4. $\begin{aligned} 4x-4y&=8 \\ 3x-2y&=9 \end{aligned}$ **Solution:** _____

5. $\begin{aligned} 8x-4y&=-76 \\ 5x+2y&=-16 \end{aligned}$ **Solution:** _____

6. $\begin{aligned} 2x-3y&=-12 \\ 4x+4y&=6 \end{aligned}$ **Solution:** _____

7. Two families go to a hockey game. One family purchases 2 adult tickets and 4 youth tickets for a total of $28. Another family purchases 4 adult tickets and 5 youth tickets for a total of $45.50.

Let x = the cost of an adult ticket
Let y = the cost of a youth ticket

A) Write a system of equations to represent this situation.

B) Solve the linear system to find the cost of one adult ticket and one youth ticket.

C) How much would it cost 2 adults and 5 youths to attend the game?

Jumbled Answers

$(-6,7)$ Infinitely Many Solutions $(5,3)$ $\left(-\frac{3}{2},3\right)$

$(-1,-1)$ $(8,0)$ $(7,3.5)$