Name_____

Precalculus Unit 10 – 10.2 Homework Worksheet
Systems of Equations in Two Variables

Solve each system using elimination.

1. $\begin{matrix} 3x - 2y = 5 \\ x + 2y = 7 \end{matrix}$

2. $\begin{matrix} 5u + 6v = 24 \\ 3u + 5v = 18 \end{matrix}$

3. In the system $\begin{matrix} ax + 4y = 14 \\ 5x + 7y = 8 \end{matrix}$, *a* is a constant and *x* and *y* are variables. If the system has no solutions, what is the value of *a*?

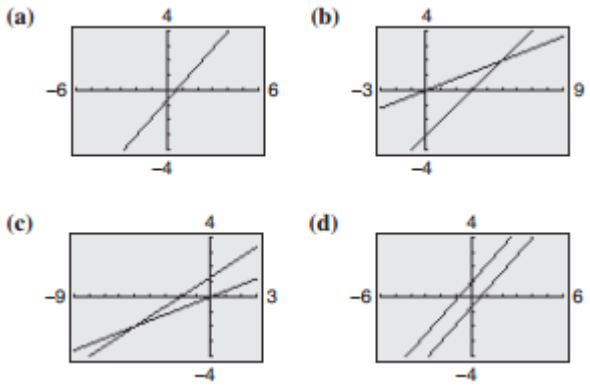
4. Match each of the following systems with the correct graph.

A. $\begin{cases} 2x - 5y = 0 \\ x - y = 3 \end{cases}$

B. $\begin{cases} -7x + 6y = -4 \\ 14x - 12y = 8 \end{cases}$

C. $\begin{cases} 2x - 5y = 0 \\ 2x - 3y = -4 \end{cases}$

D. $\begin{cases} 7x - 6y = -6 \\ -7x + 6y = -4 \end{cases}$



5. $\frac{x-1}{2}+\frac{y+2}{3}=4$
$x-2y=5$

6. $\frac{2}{3}x+\frac{1}{6}y=\frac{2}{3}$
$4x+y=4$

7. $\frac{1}{4}x+\frac{1}{6}y=1$
$-3x-2y=0$

8. Write a linear system of equations that has a solution of $(5,-2)$.

9. Five hundred tickets were sold for one performance of a play. The tickets for adults and children sold for \$7.50 and \$4.00 respectively, and the receipts for the performance totaled \$3312.50. How many of each type of ticket were sold?