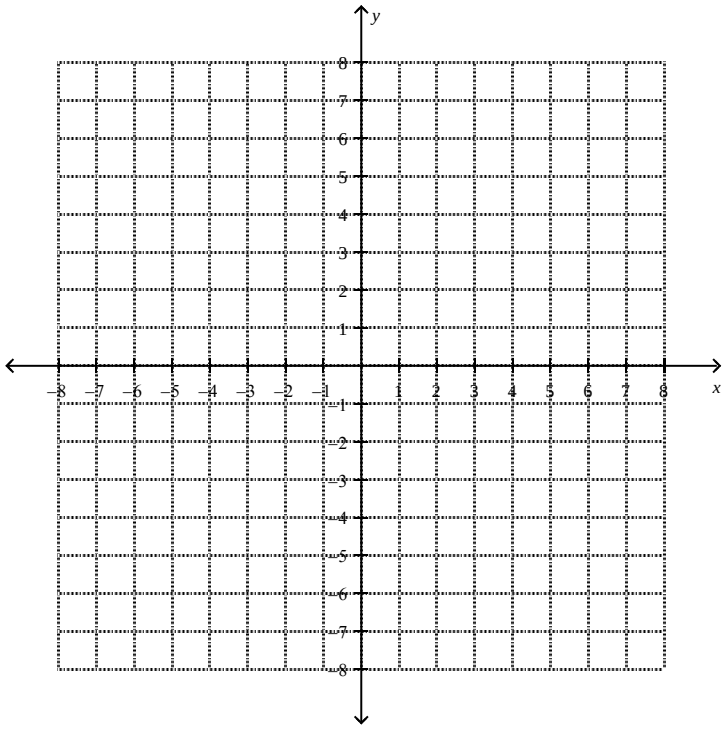
Name: _____ **Period:** _____

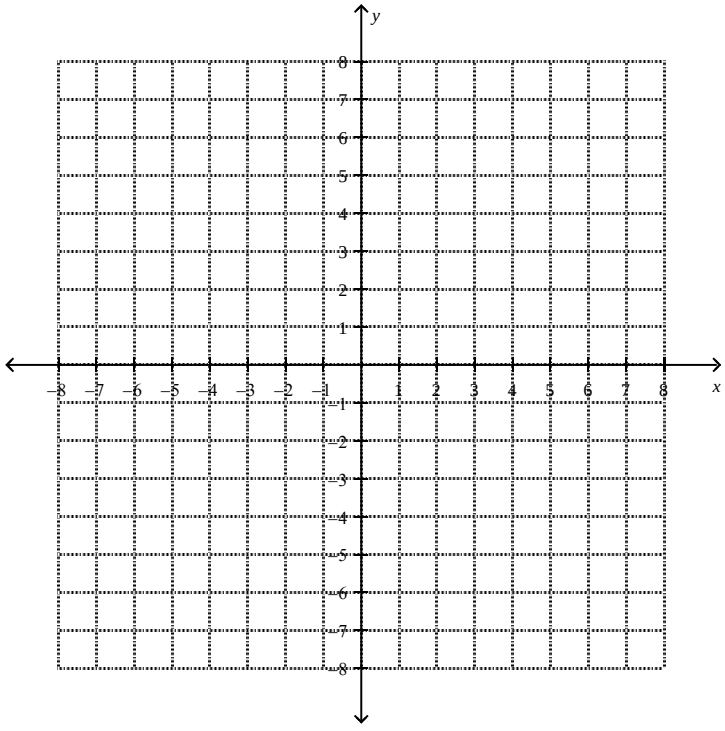
HW #9 –Systems of Equations Review

What is the **solution** to the following system of linear equations?
If there is *no solution* or *infinitely many*, explain why.

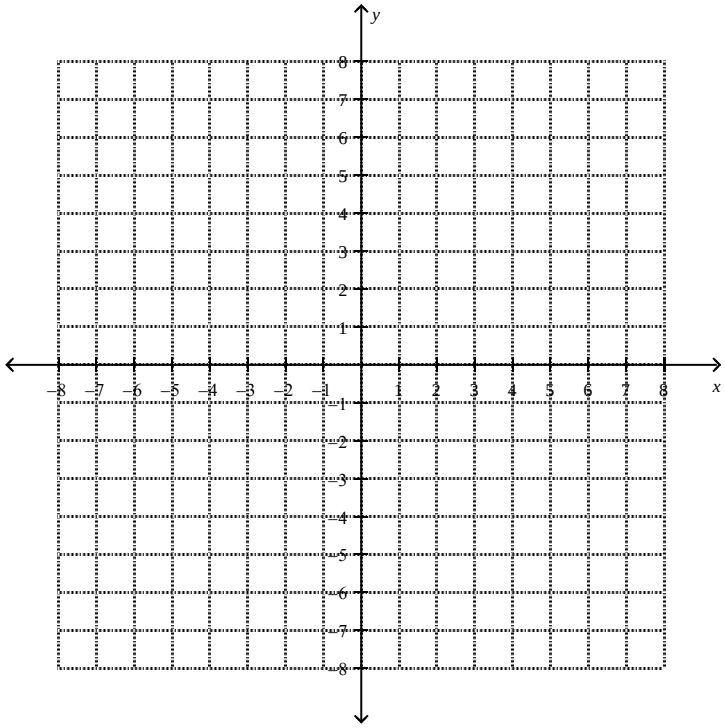
1. $\begin{cases} y = \frac{3}{5}x \\ y = \frac{3}{5}x - 2 \end{cases}$



2. $\begin{cases} y = -\frac{1}{2}x + 2 \\ y = -x + 5 \end{cases}$



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



What is the **solution** to the following system of linear equations? **Please solve one algebraically, one using substitution, and one using elimination. It is your choice to decide which problem to solve using each method.** If there is *no solution* or *infinitely many*, explain why.

4. $\begin{cases} y = 4x + 10 \\ y = 3x + 9 \end{cases}$

5. $\begin{cases} 2x + 5y = -1 \\ x + 2y = 0 \end{cases}$

6. $\begin{cases} -6x - 4y = 10 \\ -6x - 4y = -20 \end{cases}$

7. Suppose you bought supplies for a party. Three rolls of streamers and fifteen party hats cost $30. Later, you bought two rolls of streamers and four party hats for $11. Write and solve a system of equations to determine the cost of streamers and party hats, find their costs.

8. Sam needs to rent a car for a one-week trip to Oregon. He is considering two companies:

A+ Auto Rental: $175 plus $0.10 per mile

Zippy Auto Rental: $220 plus $0.05 per mile.

Write and solve a system of equations to determine when the rental costs are the same for both companies.