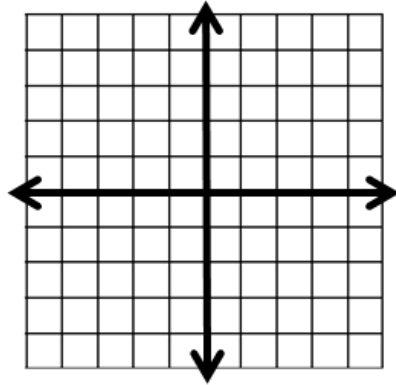


3.4H Systems of Equation: More Practice Name: _____ Per: _____

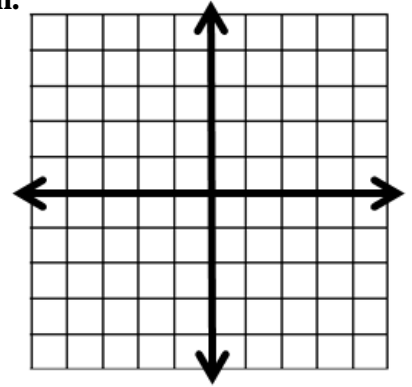
SHOW YOUR WORK FOR FULL CREDIT. NO WORK, NO CREDIT. NO WORK IN PEN.

Solve the following systems of equations by graphing and circle the solution.

1. $y = -\frac{1}{2}x - 1$
 $4y - x = -16$



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



State **how many** solutions the following set of equations will have and **how you know**.

3. $\begin{cases} 4y - 4(4x - 1) = 16 \\ y = 4(2x + \frac{1}{4}) \end{cases}$

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

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

Solve the following systems of equations by any method.

6. $\begin{cases} 5x + y = -13 \\ y = -1 - x \end{cases}$

8. $\begin{cases} x = -\frac{4}{3} + y \\ \frac{3}{2}x = -\frac{9}{2} + \frac{3}{2}y \end{cases}$

10. $\begin{cases} 2x + y = 20 \\ 6x - 5y = 12 \end{cases}$

Solution: _____

Solution: _____

Solution: _____

7. $\begin{cases} 7x + 2y = 24 \\ 4x + y = 15 \end{cases}$

9. $\begin{cases} y = 5x - 7 \\ -3x - 2y = -12 \end{cases}$

11. $\begin{cases} 8x + y = -16 \\ 9x - 3y = 15 \end{cases}$

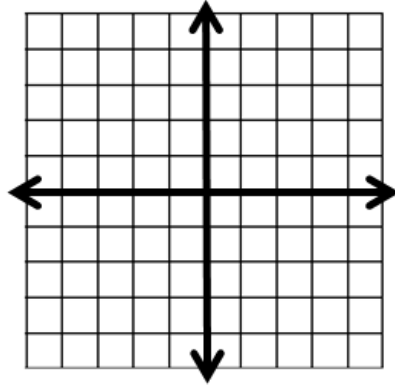
Solution: _____

Solution: _____

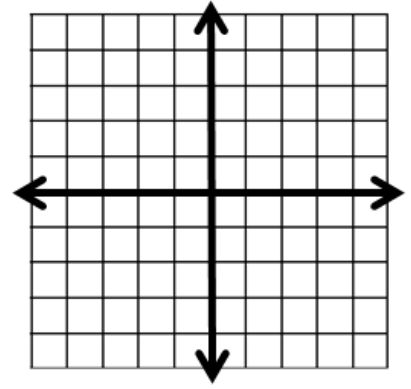
Solution: _____

Solve the following systems of inequalities by graphing and circle the solution set.

12. $y \leq \frac{1}{2}x + 1$
 $y + 2x > -2$



13. $y \geq -x - 1$
 $y < x$



14. Debra is starting a catering business and is attempting to figure out who she should be using to transport the food to different locations. She has found two companies that are willing to make sure her food arrives intact. Peter's Pick Up charges \$0.40 per mile and charges a flat fee of \$68. Helen's Haulers charges \$0.65 per mile and charges a one-time fee of \$23.

- Define your variables.
- Write TWO equations
- Solve the system of equations
- Explain what the solution means. _____
- If she needed to transport her food for 160 miles, which company should she use?
 _____ Explain: _____

15. At the Smith's Nick and Scott are getting snacks. Nick buys 3 soft drinks and 2 hot dogs at a cost of \$7.70, while Scott buys 2 soft drinks and 1 hot dog at cost of \$ 4.55.

- Define your variables.
- Write TWO equations
- Solve the system of equations
- How much does one hot dog cost? _____
- What is the cost of one soft drink? _____

Solve the following equations. If needed, simplify your radicals if possible.

16. $\frac{x+10}{12} = \frac{x+3}{7}$

17. $\frac{3}{8} = \frac{n-4}{n+6}$

18. $64 + 3x^2 - 10 = 6x^2$

19. $15x - x^3 = 15x - 36$

