2017 *ALGEBRA 2* 2018
WEEKLY ASSIGNMENT SHEET FOR
JAN. 29 TO FEB. 02
THIRD QUARTER (Q3). WEEK 2 OF 9. (Q3-2)

INSTRUCTOR: MR. ANDRUS. ROOM: 514

CONTINUING OBJECTIVES:

1. ***Improve organization skills.***
2. ***Move from memorizing and repeating to applying and thinking.***
3. ***Read, write and interpret math statements.***
4. ***Use mistakes as opportunities to learn.***
5. ***Expand successes and build up weaknesses. Continue to move forward.***

CURRENT OBJECTIVES:

1. *Algebra Review and Systems of Equations and Inequalities. Solve a system of two equations by graphing. A2.ACE.1*, A2.ACE.2*, A2.ACE.3, A2.ACE.4**
2. *REVIEW.*

MONDAY (IF YOU DID NOT ATTEND LAST FRIDAY'S CLASS.)→ →

1. After this week, what % of Q3 is complete? What % of S2 grade is complete?
2. Read & Study worksheets. Record 3 keywords for each worksheet.
3. Complete all problems on all worksheets.
4. Keep this work in your binder.

Please update last week's test. Please turn "IN". Check your last week's assignment sheet for Friday's work. Please complete this work. ☺☺☺

TUESDAY (IF YOU DID NOT ATTEND LAST FRIDAY'S CLASS.)→ →

1. Grade/UPDATE/discuss Monday's work.
2. Read & Study worksheets. Record 3 keywords for each worksheet.
3. Complete all problems on all worksheets.
4. Keep this work in your binder.

Please complete Monday's assignments and use them to prepare for this week's test. ☺☺☺

WEDNESDAY (IF YOU DID NOT ATTEND CLASS ON TUESDAY)→→

1. Grade/UPDATE/discuss Tuesday's work.
2. Complete the weekly test review sheet.
3. Journal: Explain how to solve a system of two equations by graphing. List the three possible outcomes and describe what the graphs look like for each possible outcome.
4. Turn this work in before leaving class today.

Please complete Tuesday's assignments and use them to prepare for this week's test. ☺☺☺

THURSDAY (IF YOU DID NOT ATTEND CLASS ON WEDNESDAY)→

1. Grade/UPDATE/discuss Wednesday's work. Review.
2. **Weekly test Q3-2.**
3. **You may use all notes on this test.**
4. **If you did not attend class yesterday, your first take will count as your new test problems. Your 2nd take will count as your test score. Additional takes will be updates.**

Please complete Wednesday's assignments and use them to prepare for this week's test. ☺☺☺

FRIDAY (IF YOU DID NOT ATTEND CLASS ON THURSDAY)→→

1. Update yesterday's test.
2. Complete all items on Problem Solving Q3-2 and
3. turn it in before leaving class today.

Please complete the weekly test today. ☺☺☺

NAME_____

Algebra 2
MR. ANDRUS

BLOCK_____ DESK #_____ Q3-2 solve by graphing worksheet.

◆Skill A Solving a system of linear equations by graphing

Recall A system of equations may be consistent or inconsistent. If it is consistent, the equations may be dependent or independent.

◆ **Example**

Graph each system. Classify the graphs as intersecting lines, parallel lines, or the same line. Then classify the system as consistent or inconsistent. If it is consistent, classify it as dependent or independent and find the solution.

a. $\begin{cases} y = \frac{1}{2}x + 1 \\ x + y = 4 \end{cases}$ **b.** $\begin{cases} y = \frac{1}{2}x + 1 \\ y + 2 = \frac{1}{2}x \end{cases}$ **c.** $\begin{cases} y = \frac{1}{2}x + 1 \\ x - 2y = -2 \end{cases}$

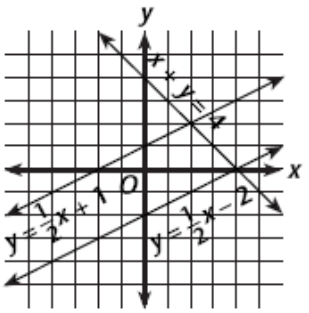
◆ **Solution**

The first equation in each system is already solved for y. Solve the second equation in each system for y and graph.

$x + y = 4 \quad \rightarrow y = -x + 4$

$y + 2 = \frac{1}{2}x \quad \rightarrow y = \frac{1}{2}x - 2$

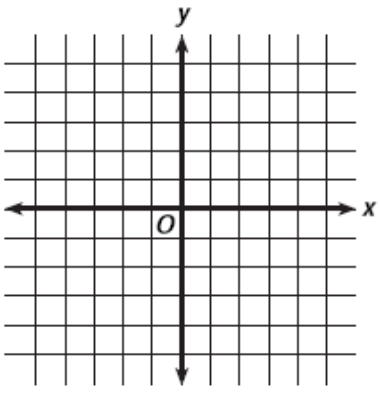
$x - 2y = -2 \rightarrow y = \frac{1}{2}x + 1$



a. intersecting lines; consistent; independent; (2, 2)
b. parallel lines; inconsistent; no solution
c. same line; consistent; dependent; all ordered pairs (x, y) such that $y = \frac{1}{2}x + 1$

Graph and classify each system. Then find the solution from the graph.

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



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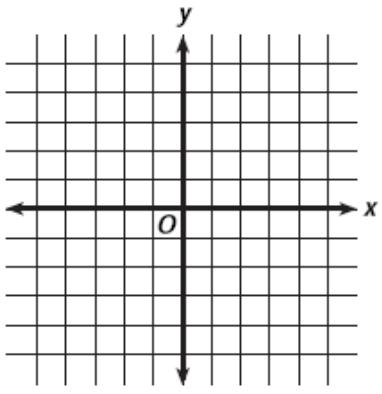
2. $\begin{cases} -3x + 6y = -6 \\ x - 2y = 2 \end{cases}$



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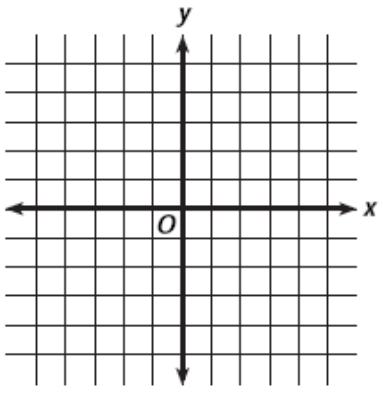
3. $\begin{cases} y = 2x - 1 \\ 2x - y = -3 \end{cases}$



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NAME_____ Algebra 2
Mr. Andrus

BLOCK_____ DESK #_____ Q3-2 solve by graphing worksheet.

◆ Skill A Solving systems of equations by graphing

Recall Write each equation in slope-intercept form, $y = mx + b$. Then graph both equations on the same coordinate plane. The solution is the point where the lines intersect.

◆ **Example**

Solve the system of equations.

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

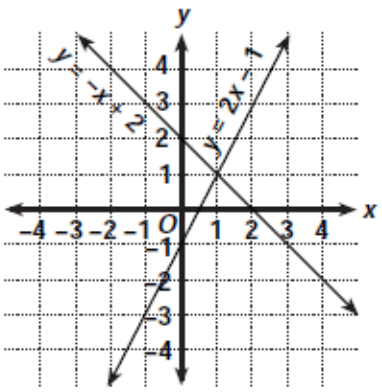
◆ **Solution**

The first equation is already solved for y. Solve the second equation for y.

$2x - y = 1$	
$2x - (2x) - y = 1 - (2x)$	Subtraction Property of Equality
$\frac{-y}{-1} = \frac{(1 - 2x)}{-1}$	Division Property of Equality
$y = -1 + 2x$	Simplify.
$y = 2x - 1$	Commutative Property of Addition

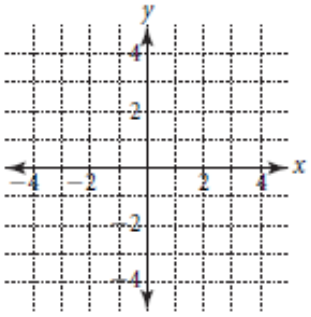
The graphs of both equations are shown.

The lines intersect at (1, 1), so the solution is (1, 1).

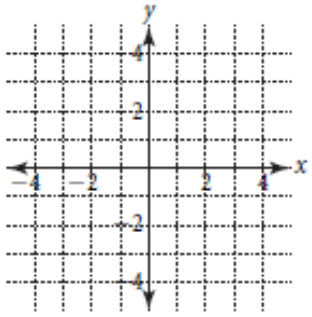


Graph and classify each system. Then find the solution from the graph.

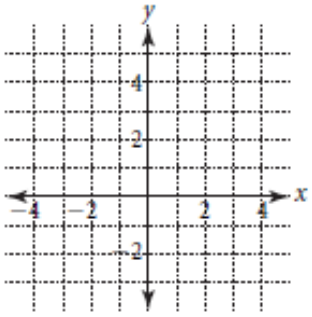
20. $\begin{cases} y = -x + 3 \\ y = 2x + 6 \end{cases}$ _____



21. $\begin{cases} y = x - 2 \\ y = 3x - 4 \end{cases}$ _____



22. $\begin{cases} y = 3x - 4 \\ y = 2x - 2 \end{cases}$ _____



12. $\begin{cases} 2x + 4y = 16 \\ 5y - 8x = -1 \end{cases}$

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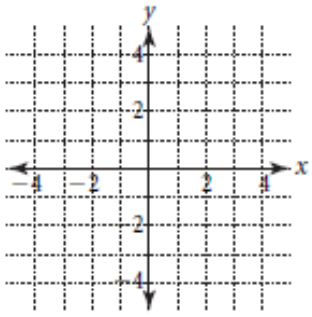

13. $\begin{cases} 4x + 9y = 2x - 7 \\ x - 10 = y - 12 \end{cases}$

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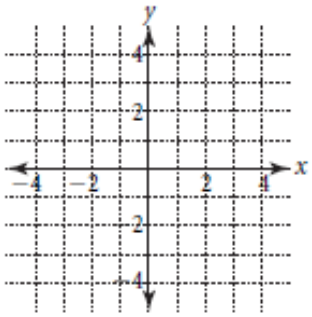

14. $\begin{cases} x = 5 \\ 7x + 5y = 11 \end{cases}$

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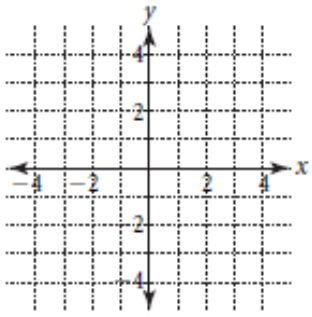


◆ Skill B Finding the approximate solution to a system of equations by graphing

Recall Many real-world problems do not have whole-number solutions. These types of problems can be solved by finding an approximate solution. In order to find an approximate solution, graph the system of equations on one graph and estimate the point of intersection. This point of intersection is the approximate solution.

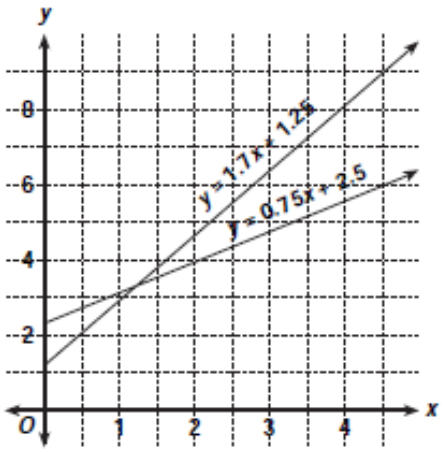
◆ Example

A cab ride costs \$2.50 plus \$0.75 per mile traveled if you use Speedy Cab or \$1.25 plus \$1.70 per mile traveled if you use Comfort Cab. At what distance will the cab rides cost the same amount?

◆ Solution

Let y represent the cost of the cab ride, and let x represent the distance in miles.
Set up a system of equations. Speedy Cab: $y = 0.75x + 2.5$
Comfort Cab: $y = 1.7x + 1.25$

The graphs of both equations are shown.



The point of intersection is approximately (1.3, 3.5).
Thus, the solution to the problem is approximately 1.3 miles.

Write a system of equations for each problem. Use your own grid paper to solve each system by graphing.

3. A hot air balloon is 20 feet above the ground and is rising at a rate of 15 feet per minute. Another balloon is 150 feet above the ground and is descending at a rate of 20 feet per minute. At what height will the balloons be the same distance from the ground?

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4. The perimeter of a rectangular swimming pool is 40 meters. The length of the pool is 2 meters less than twice its width. What are the dimensions of the pool?

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