Name: Systems | 2.1

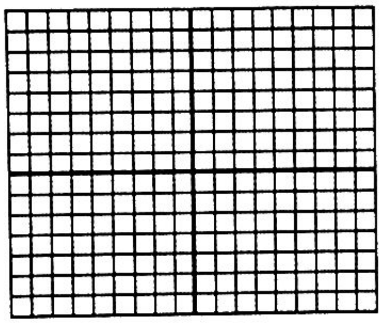
Ready, Set, Go!

Ready

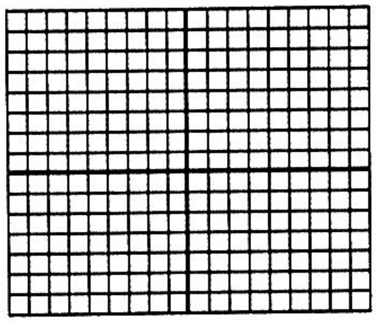
Topic: Determine if given value is a solution and solve systems of equations

Substitute the given points into the equations to determine which ordered pair satisfies the system of linear equations, then graph both equations and label the point of intersection.

1. $y = 3x - 2$ *and* $y = x$
   - a. $(0, -2)$
   - b. $(2, 2)$
   - c. $(1, 1)$

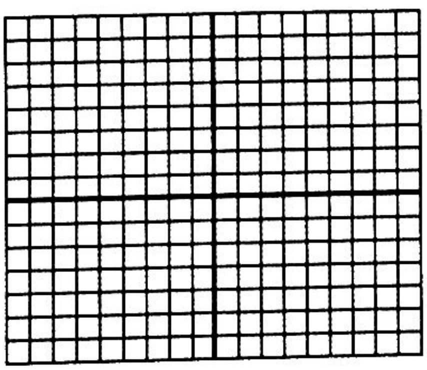


2. $y = 2x + 3$ *and* $y = x + 5$
   - a. $(2, 7)$
   - b. $(-7, 11)$
   - c. $(0, 5)$

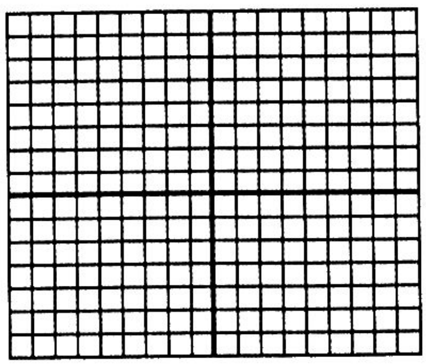


Solve the following systems by graphing. Check the solution by evaluating both equations at the point of intersection.

3. $y = x + 3$ *and* $y = -2x + 3$



4. $y = 3x - 8$ *and* $y = -x$



Name:

Set Topic: Determining possible solutions

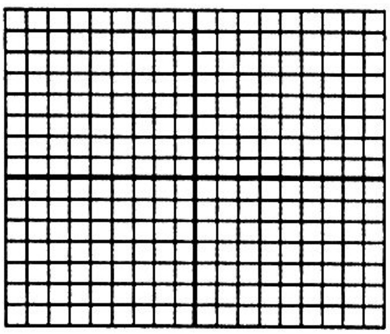
5. A theater wants to take in at least $2000 for a certain matinee. Children's tickets cost $5 each and adult tickets cost $10 each. The theater can seat up to 350 people. Find five combinations of children and adult tickets that will make their goal.

Go

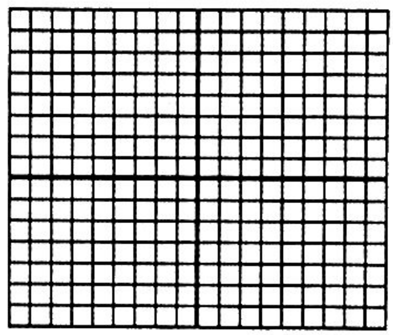
Topic: graphing linear equations and determining if a given value is a solution

Graph each equation below, then determine if the point (3,5) is a solution to the equation. Name two additional points that are solutions to the equation and show these points on the graph.

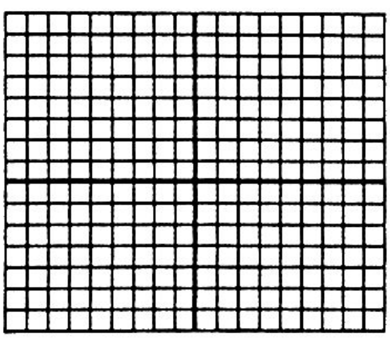
6. $y = 2x - 1$



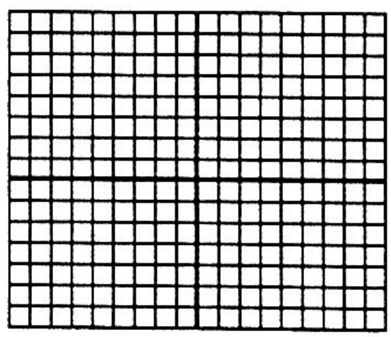
7. $y = \frac{1}{3}x + 2$



8. $y = -3x + 5$



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



Need help? Check out this related video:

https://www.youtube.com/watch?v=vo-CXaCf1I4

Kuta Software - Infinite Algebra 2

Name________________________

Matrix Multiplication

Date________________ Period____

Simplify. Write "undefined" for expressions that are undefined.

1) $\begin{bmatrix} 0 & 2 \\ -2 & -5 \end{bmatrix} \cdot \begin{bmatrix} 6 & -6 \\ 3 & 0 \end{bmatrix}$

2) $\begin{bmatrix} 6 \\ -3 \end{bmatrix} \cdot \begin{bmatrix} -5 & 4 \end{bmatrix}$

3) $\begin{bmatrix} -5 & -5 \\ -1 & 2 \end{bmatrix} \cdot \begin{bmatrix} -2 & -3 \\ 3 & 5 \end{bmatrix}$

4) $\begin{bmatrix} -3 & 5 \\ -2 & 1 \end{bmatrix} \cdot \begin{bmatrix} 6 & -2 \\ 1 & -5 \end{bmatrix}$

5) $\begin{bmatrix} 0 & 5 \\ -3 & 1 \\ -5 & 1 \end{bmatrix} \cdot \begin{bmatrix} -4 & 4 \\ -2 & -4 \end{bmatrix}$

6) $\begin{bmatrix} 5 & 3 & 5 \\ 1 & 5 & 0 \end{bmatrix} \cdot \begin{bmatrix} -4 & 2 \\ -3 & 4 \\ 3 & -5 \end{bmatrix}$

7) $\begin{bmatrix} -5 \\ 6 \\ 0 \end{bmatrix} \cdot \begin{bmatrix} 3 & -1 \end{bmatrix}$

8) $\begin{bmatrix} 3 & 2 & 5 \\ 2 & 3 & 1 \end{bmatrix} \cdot \begin{bmatrix} 4 & 5 & -5 \\ 5 & -1 & 6 \end{bmatrix}$

Critical thinking questions:

9) Write an example of a matrix multiplication that is undefined.

10) In the expression $A \cdot B$, if A is a 3×5 matrix then what could be the dimensions of B?

Name______________________________ Period:________

Matrix Arithmetic Practice

Use matrix arithmetic to solve the following equations:

1. $\begin{bmatrix} 1 & 0 \\ -2 & 3 \end{bmatrix} + \begin{bmatrix} -1 & 1 \\ 3 & -4 \end{bmatrix} =$

2. $-2\begin{bmatrix} 1 & 5 \\ 7 & 6 \\ 5 & 4 \end{bmatrix} =$

3. $\begin{bmatrix} 2 & 4 & 1 \\ 3 & 0 & 0 \end{bmatrix} \times \begin{bmatrix} 0 & 1 \\ -1 & 4 \\ 0 & 0 \end{bmatrix} =$

4. $\begin{bmatrix} 0 & -1 \\ 2 & 3 \end{bmatrix} \times \begin{bmatrix} 4 & 0 \\ 1 & -2 \end{bmatrix} =$

$\begin{bmatrix} 1 & 3 & 4 \\ -1 & -2 & -5 \\ 0 & 1 & 2 \end{bmatrix} + \begin{bmatrix} 0 & 8 & -3 \\ 9 & 2 & 7 \\ 3 & 4 & -5 \end{bmatrix} =$

6. $\begin{bmatrix} 1 & -1 & 0 \\ 0 & 2 & -2 \\ -3 & 0 & 3 \end{bmatrix} \times \begin{bmatrix} 1 & 1 & 2 \\ 2 & 3 & 3 \\ 3 & 2 & 1 \end{bmatrix} =$

$\begin{bmatrix} 2 & 4 & 1 \\ 3 & 0 & 0 \end{bmatrix} \times \begin{bmatrix} 0 & 1 \\ -1 & 4 \\ 0 & 0 \end{bmatrix} - 3\begin{bmatrix} 2 & 3 \\ -4 & -2 \end{bmatrix} =$