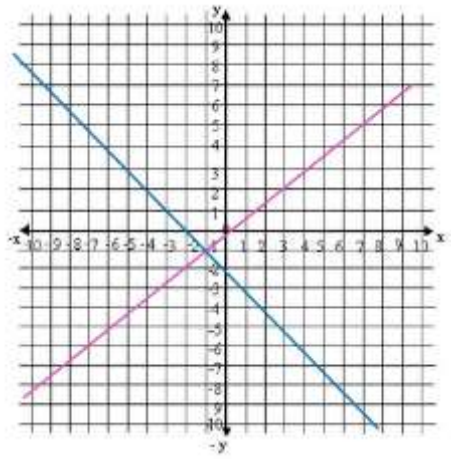
Name: _____ Period: _____ Date: _____

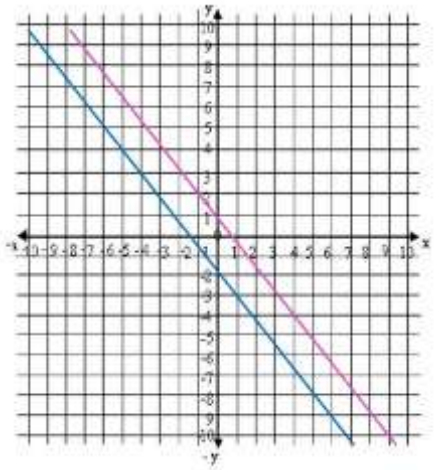
SOLVING LINEAR SYSTEMS BY GRAPHING Bell Work

Identify from the graph the solution of the system and determine if it is an independent, inconsistent or dependent system

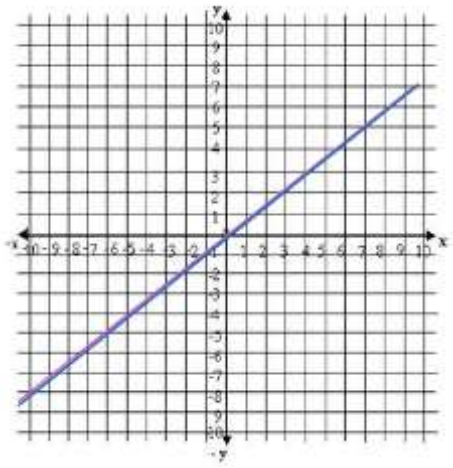
1.



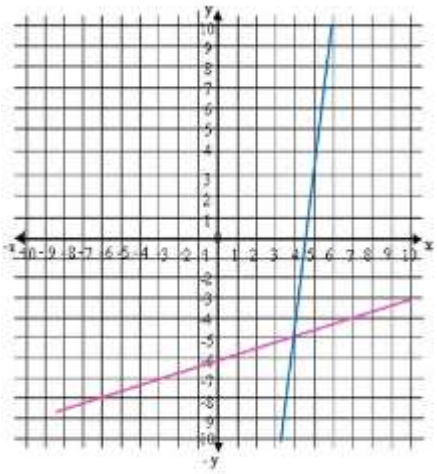
2.



3.



4.



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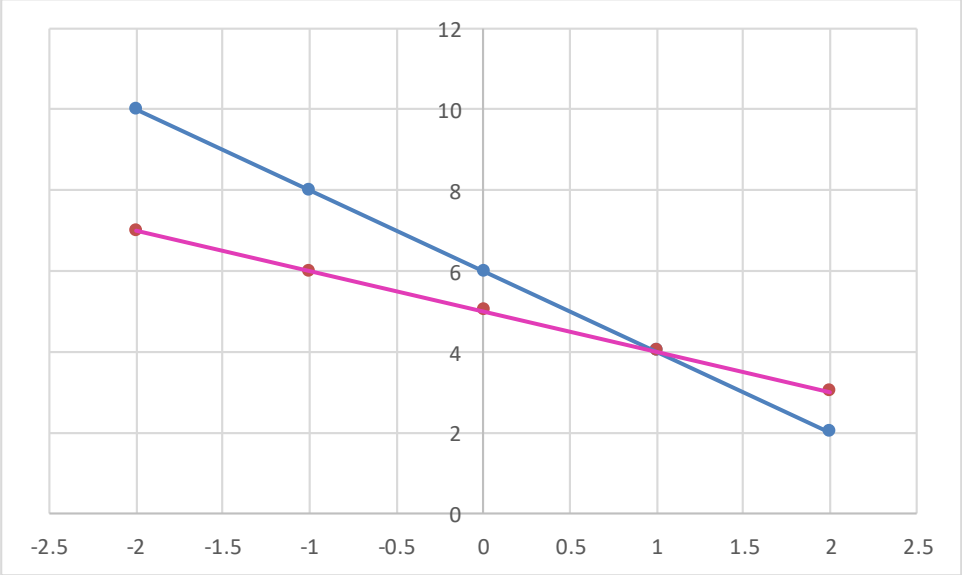
SOLVING LINEAR SYSTEMS BY GRAPHING Bell Work

Find the solution of the following systems by graphing

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

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

7. From the given graph, identify the equations of the linear functions that compose the system



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SOLVING LINEAR SYSTEMS BY GRAPHING Bell Work

ANSWER

Identify from the graph the solution of the system and determine if it is an independent, inconsistent or dependent system

Remember the solution will be the point of intersection between both linear functions.

1. Solution (-1,-1) , Independent System
2. No solution, Inconsistent System
3. Infinite solutions, Dependent System
4. Solution (4,-5) , Independent System

Find the solution of the following systems by graphing

One easy way to graph each linear function is to find its intercepts with the axes.

5. $\boldsymbol{x - y = 3}$

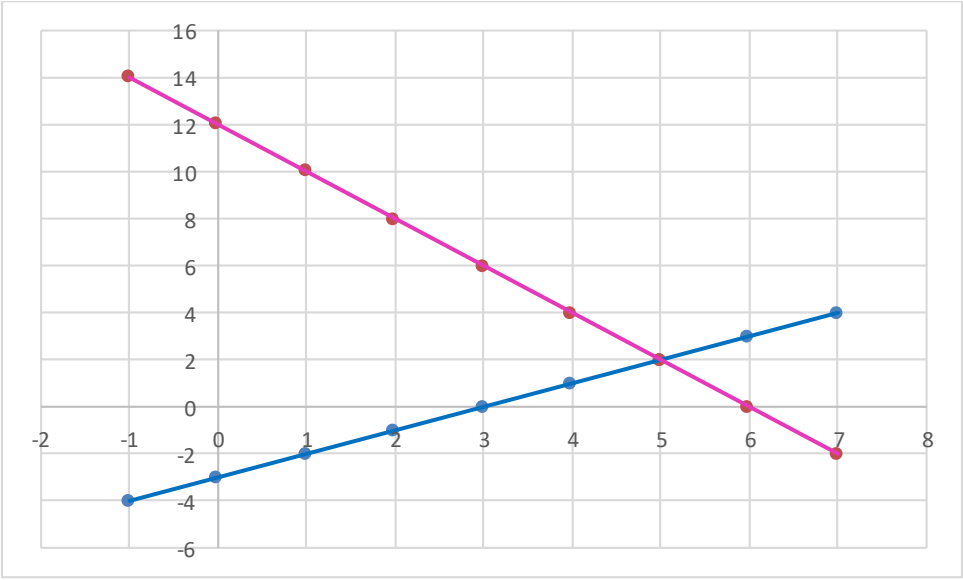
$$x = 0 \rightarrow y = -3 \rightarrow (0, -3)$$

$$y = 0 \rightarrow x = 3 \rightarrow (3,0)$$

$\boldsymbol{2x + y = 12}$

$$x = 0 \rightarrow y = 12 \rightarrow (0,12)$$

$$y = 0 \rightarrow x = 6 \rightarrow (6,0)$$



System Solution (5, 2)

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SOLVING LINEAR SYSTEMS BY GRAPHING Bell Work

6. $\boldsymbol{3x + y = -2}$

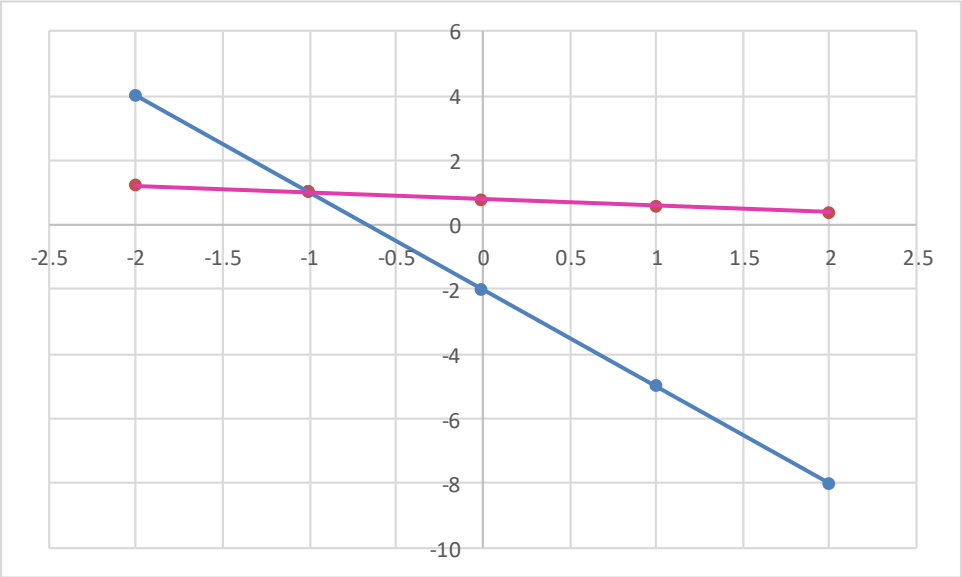
$$x = 0 \rightarrow y = -2 \rightarrow (0, -2)$$

$$y = 0 \rightarrow x = -\frac{2}{3} \rightarrow (-\frac{2}{3}, 0)$$

$\boldsymbol{x + 5y = 4}$

$$x = 0 \rightarrow y = \frac{4}{5} \rightarrow (0, \frac{4}{5})$$

$$y = 0 \rightarrow x = 4 \rightarrow (4,0)$$



System Solution (-1, 1)

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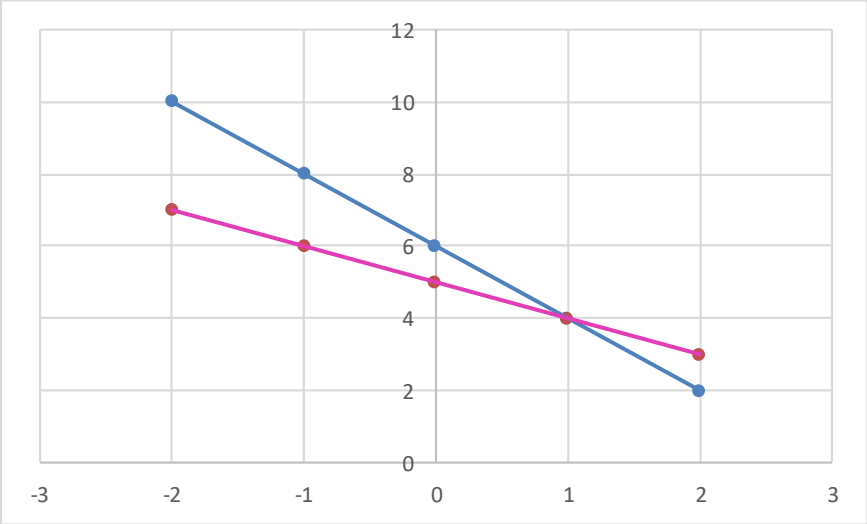
SOLVING LINEAR SYSTEMS BY GRAPHING Bell Work

7. From the given graph, identify the equations of the linear functions that compose the system

Select two points for each linear function to calculate its equation, one point would be the intersection point and the other a point that belong to each of the corresponding linear function.



- **For the blue line: (0,6) and (-1,8)**

$$y - y1 = \frac{y2 - y1}{x2 - x1}(x - x1)$$

$$y - 6 = \frac{8 - 6}{-1 - 0}(x - 0)$$

$$y - 6 = -2x \quad \rightarrow \quad 2x + y = 6$$

- **For the pink line: (1,4) and (-1,6)**

$$y - y1 = \frac{y2 - y1}{x2 - x1}(x - x1)$$

$$y - 4 = \frac{6 - 4}{-1 - 1}(x - 1)$$

$$y - 4 = -x + 1 \quad \rightarrow x + y = 5$$

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SOLVING LINEAR SYSTEMS BY GRAPHING Bell Work

Finally:

$$\begin{cases} 2x + y = 6 \\ x + y = 5 \end{cases}$$