

**Slope-Intercept Form Systems of Equations**

Alex's phone plan costs \$12 per month plus an additional \$1 for every 250MB of data he uses. Kendra's phone plan costs \$9 per month plus an additional \$2 for every 250MB of data she uses. Model Alex's and Kendra's phone plans with equations, tables, and graphs. Determine how many MB of data Alex and Kendra would have to use in a given month in order for their phone bill to be the same.

	Alex	Kendra	
Starting Point			
Rate of Change			
Slope-Int. Equation			
Alex		Kendra	
X	Y	X	Y



What do you notice about the tables?

What do you notice about the graph?

How can we check our answer (for how much data would their bills be the same) using the equations?

**Key Ideas**

What is a _____ of linear equations?	_____ linear equations form this.
What is the _____ to a system?	Any _____ that makes _____ the equations in a system true is this.
How do we find a system's solution graphically?	Whereas a line represents all the solutions to <i>one</i> linear equation, the _____ is the solution to <i>both</i> linear equations.
How do we find a system's solution using tables?	By starting at the y-intercept and following the pattern of the rate of change, eventually each table will show a point with the _____.
How can we check the solution algebraically?	We can _____ our values for <i>x</i> and <i>y</i> into each equation. If both equations remain true statements, then we have found the correct solution.

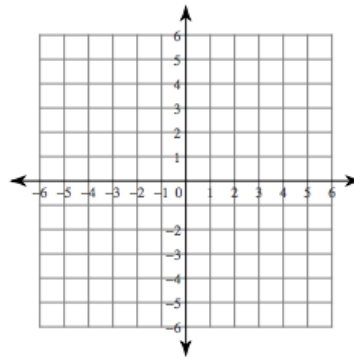
**Solve the System by Making Tables and Graphing**

Equation:  $y = \frac{2}{3}x$

Equation:  $y = 2x - 4$

X	Y

X	Y

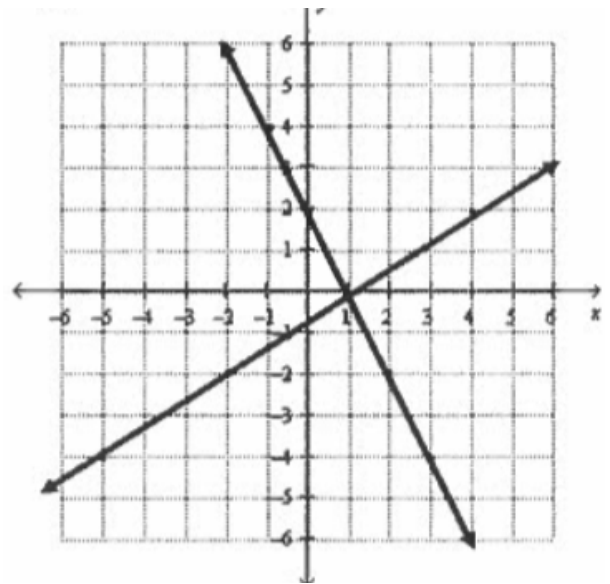
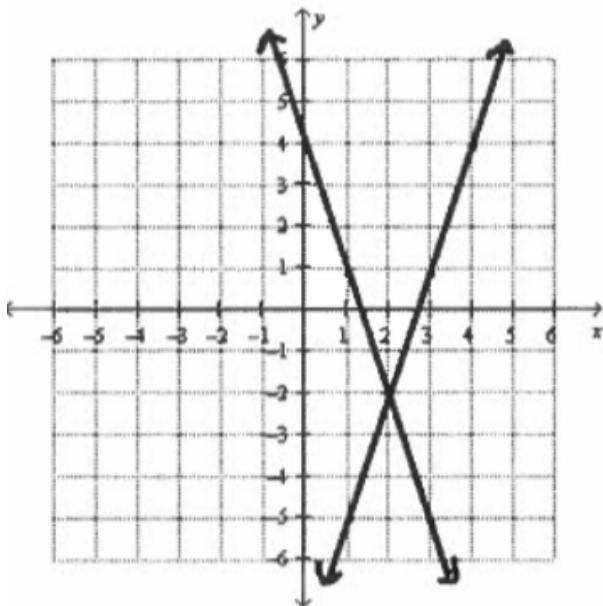


Solution:

**What is the solution to the system of linear equations?**

1) Solution: (     ,     )

2) Solution: (     ,     )



The following two tables represent a system of linear functions. Extend the tables to find the solution.

3)

4)

x	y
-9	20
-2	24
5	28

x	y
-26	20
-13	25
0	30

x	y
25	3
10	9
-5	15

x	y
-55	-9
-50	0
-45	9

Solution: (     ,     )

Solution: (     ,     )