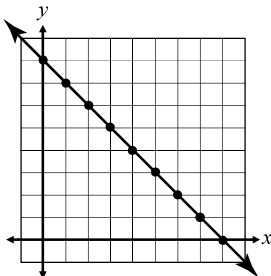


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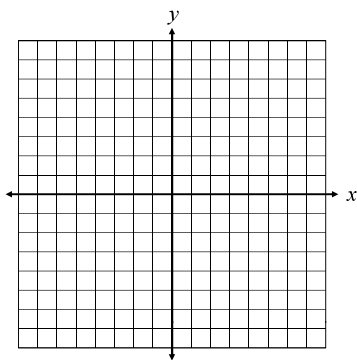
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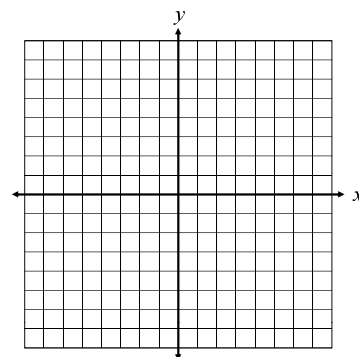
Main Ideas/Questions	Notes/Examples			
Linear Relations	- When points on a graph lie along a straight line, it is called a linear relation. - Linear relations can be represented by an equation, for example, the equation of this graph can be written as $x + y = 8$.			
	Standard Form	Linear equations are often written in standard form : _____ (where A, B, and C are integers and A ≥ 1 and the GCF of A, B, and C, is 1)		
Directions: Write each equation in standard form .				
1. $-5x + 6y = -12$	2. $y = 2x - 9$	3. $9x + 6y - 24 = 0$		
4. $7y = 7 - 7x$	5. $\frac{3}{4}x - \frac{1}{3}y = 1$	6. $\frac{1}{6}x = y - 2$		
Slope-Intercept Form	Linear equations are often written in slope-intercept form : _____ (or) _____ (where m is the _____ and b is the _____)			
	Slope	Slope is the constant rate of change between the points (think rise/run!) There are ____ types of slope. Sketch them below.		

Directions: Write the equation in **slope-intercept form**, then graph the line.

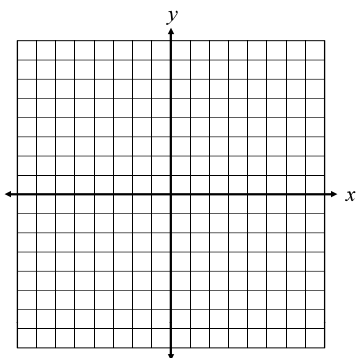
7. $y = \frac{2}{5}x + 7$



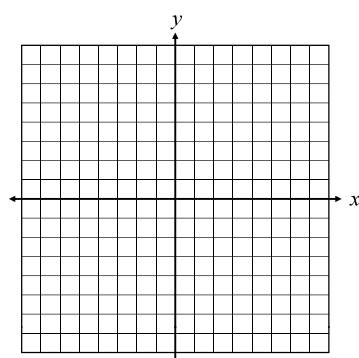
8. $f(x) = -x + 2$



9. $x + 3y = -15$



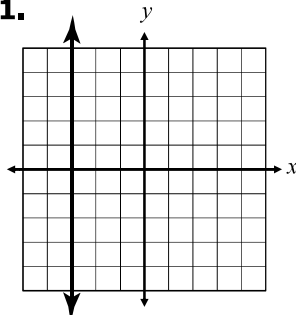
10. $4x + y - 1 = 0$



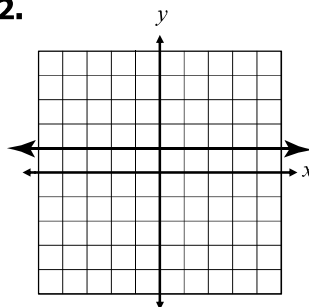
Vertical & Horizontal Lines

Write each equation to represent the line shown on the graph.

11.



12.



Parallel vs. Perpendicular Lines

- The **slopes** of **parallel lines** are _____.
- The **slopes** of **perpendicular lines** are _____.

Directions: Determine whether the pair of lines are parallel, perpendicular, or neither.

13. $10x + 5y = 5$ and $-x = 2y + 16$

14. $8x - 6y = 42$ and $-3y = 9 - 4x$

15. $-8x + 8y = 0$ and $x - y = 4$

16. $x = 2$ and $y = 2$

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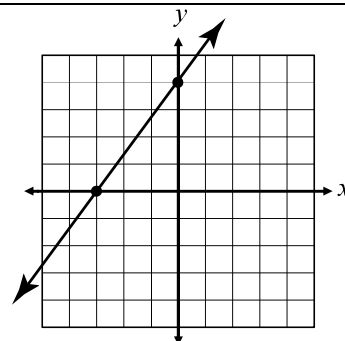
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Main Ideas/Questions

Notes/Examples

X- and Y-Intercepts

- The point at which the graph intersects the x-axis is called the **x-intercept**. Likewise, the point at which the graph intersects the y-axis is called the **y-intercept**.
- Identify the x- and y-intercept of the graph shown on the right.



The **x-intercept** is also referred to as a _____, _____, or _____ to the equation.

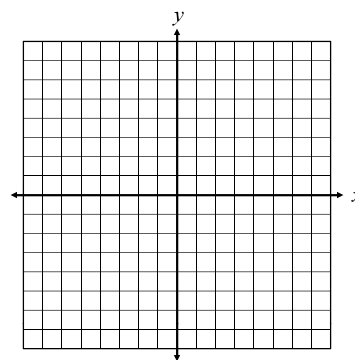
Finding Intercepts Algebraically

To find the x-intercept of an equation, set y equal to 0 and solve for x. To find the y-intercept of an equation, set x equal to 0 and solve for y. You can use these points to graph the equation.

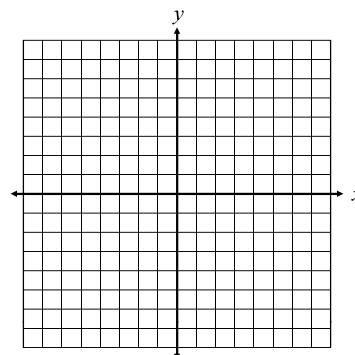
Example: Find the x- and y-intercepts of the equation $y = -2x + 5$

Directions: Find the x- and y-intercept of each equation. Then, graph the equation using the intercepts.

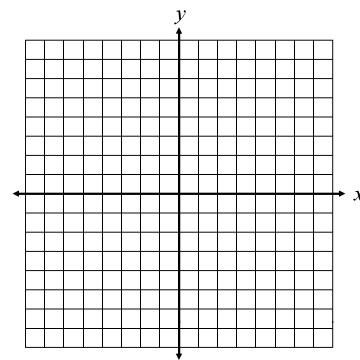
1. $y = 5x - 1$



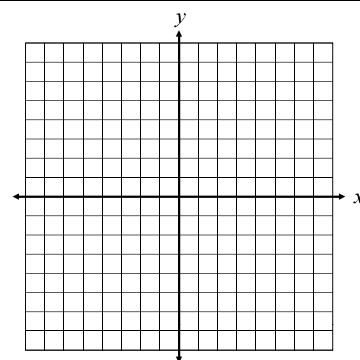
2. $y = -\frac{6}{5}x + 2$



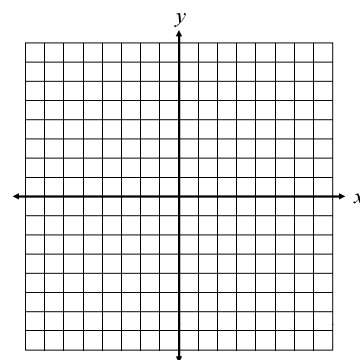
3. $y = -3x + \frac{16}{3}$



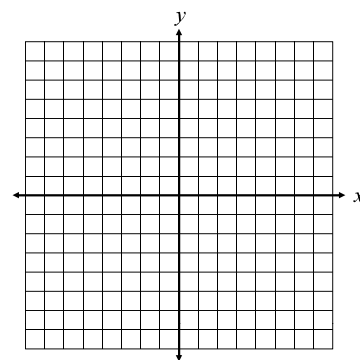
4. $4x - y = 8$



5. $-5x - 4y = -24$



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



7. $\frac{5}{2}x + \frac{5}{6}y = 6$

