

## 5-6 Parallel & Perpendicular Lines

Alg 1

### Parallel Lines



1.

2.

#### Example 1 - Parallel Lines through a Given Point

Write the slope-intercept form of the equation for the line that passes through  $(-1, -2)$  and is parallel to the graph of  $y = -3x - 2$

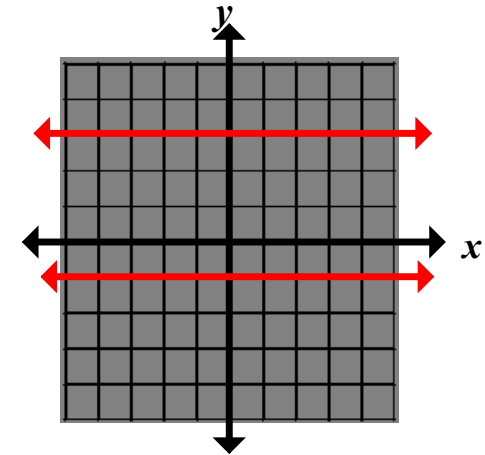
(Hint: You are given slope and a point on the line)

Write the slope-intercept form of the equation for the line that passes through  $(4, -2)$  and is parallel to the graph of  $y = \frac{1}{2}x - 4$

## Horizontal Lines

Write the equation of a line that passes through  $(2, -1)$  and is parallel to  $y = 3$

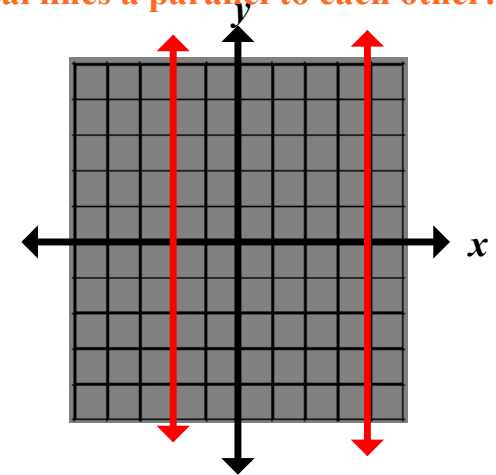
All horizontal lines are parallel to each other!!!!



## Vertical Lines

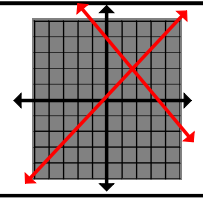
Write the equation of a line that passes through  $(4, -3)$  and is parallel to  $x = -2$

All vertical lines are parallel to each other!!!!



## Perpendicular Lines

1.

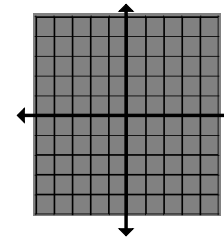


2.

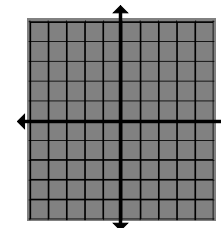
Horizontal Lines are perpendicular to vertical Lines

Example : Perpendicular line through a given point

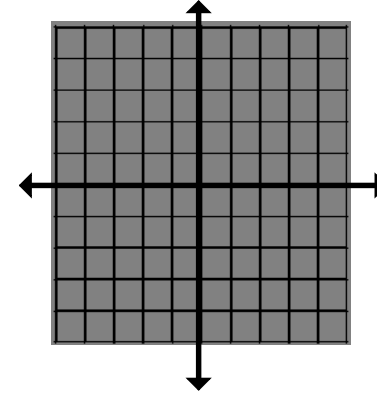
Write the slope-intercept form for an equation of the line that passes through  $(-3, -2)$  and is perpendicular to the graph of  $+4y = 12$



Write the slope-intercept form for an equation of the line that passes through  $(4, -1)$  and is perpendicular to the graph of  $x - 2y = 3$



**Write the slope-intercept form for an equation of the line that passes through  $(0,6)$  and is perpendicular to the graph of  $2y + 5x = 2$**



**Write the slope-intercept form for an equation of the line perpendicular to the graph of  $y = \frac{1}{3}x + 2$  and passes through the x-intercept of that line**

Check it on your calculator!