DO NOW

Of the points (0, 5), (2, 4), (3, 3), and (6, 2) which one does not lie on the same line as the other three? Explain how you found your answer.

$(3,3)$

★ Draw graph and check

3.1 Graphing a Line Parallel to an Axis

Recall: X-axis is horizontal
Y-axis is vertical

Equations that contain only one variable:

will be parallel to the other lettered axis.

Special Graphs:

1. $y = \#$
   ➔ If there is no x (ONLY Y), then the graph CANNOT cross the x-axis.
   ➔ PARALLEL to the X-AXIS
      horizontal
   ➔ to graph → start at given # on the y-axis

2. $x = \#$
   ➔ If there is no y (ONLY x), then the graph CANNOT cross the y-axis.
   ➔ PARALLEL to the Y-AXIS
      vertical
   ➔ to graph → start at given # on the x-axis

Examples:

1. Write the equation of a line that is parallel to the y-axis, and 2 units left of the y-axis.

   no "y" in the equation
   must be "x=#"

   $x = -2$
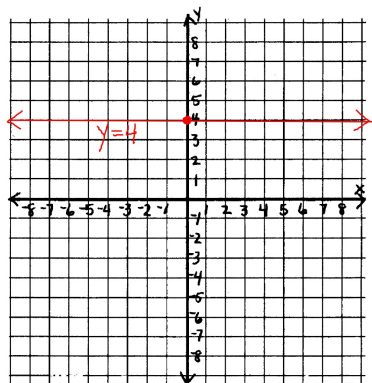
2. Write the equation of a line that is parallel to the x-axis, and 8 units above.

   no "x" in the equation
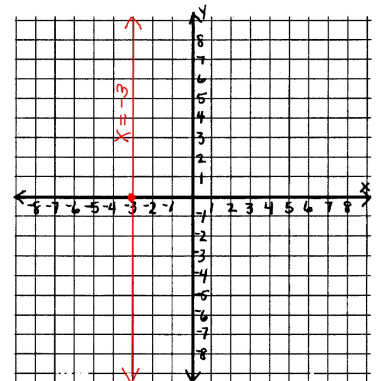   must be "y=#"

   $y = 8$

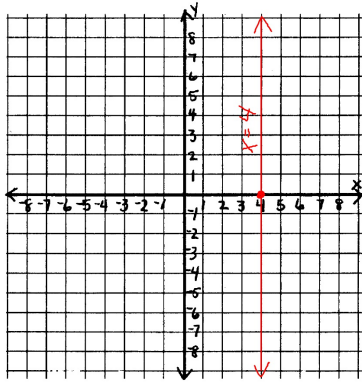3. Graph $y = 4$
   no x
   parallel to x
   ★ horizontal
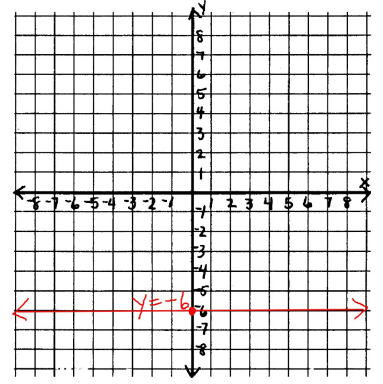
4. Graph $x = -3$
   no y
   parallel to y
   ★ vertical

5. Graph $x = 4$

Vertical

6. Graph $y = -6$

horizontal

HOMEWORK

Worksheet - HW 3.1
Lines Parallel to an Axis