

**Parallel Lines Rule:**

The slopes of parallel lines are *EQUAL* and their *y*-intercepts are different.

**Example 1:**

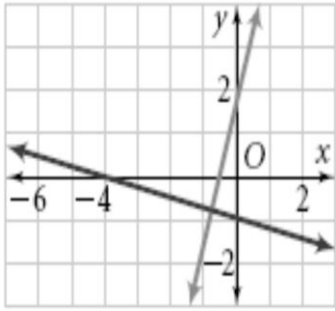
Write the equation for the line that is parallel to the given line and passes through the given point.

**Step 1:** Identify the slope of the given line. (This is also the slope of the new line)

**Step 2:** Use slope-intercept form to write an equation of the new line. (Find *b*)

a.  $y = \frac{3}{5}x - 4; (5, 1)$

b.  $y = 3x + 9; (2, -6)$



**Perpendicular lines** are lines that intersect to form right angles.

**Perpendicular Line Rule:** The slopes of perpendicular lines are ***OPPOSITE RECIPROCAL***s.

**Example 2:**

Write an equation for the line that is perpendicular to the given line and passes thru the given point.

**Step 1:** Identify the slope of the given line.

**Step 2:** Find opposite reciprocal of the slope. (This is the slope of the new line)

**Step 3:** Use slope-intercept form to write an equation of the new line. (Find b)

a.  $y = 5x + 3; (6, 2)$

b.  $y = \frac{3}{4}x + 1; (1, 8)$