**7.4 Parallel and Perpendicular Lines**

**Goals**

* Identifying whether two lines are parallel, perpendicular, or neither
* Writing the equation of a line using the coordinates of a point on the line and the equation of a parallel or perpendicular line
* Solving problems involving parallel and perpendicular lines

**Vocabulary**

1. Parallel lines
2. Perpendicular lines

**Notes**

**Examples**

1. State whether each line set of lines is parallel, perpendicular or neither
   1. Y = 3x – 6 y = -1/3 + 4
   2. Y = 4x + 3 y = 4x – 5
   3. Y = 2x + 6 6 x + 3y + 3 = 0
2. Write the equation involving parallel lines
   1. Write the equation of a line that is parallel to 2x – y + 4 = 0 and through (1, -6). Express the equation in slope-intercept form
   2. Write the equation in general form
   3. Use technology to verify your answer
3. Write the equation of a line perpendicular to 3x + 2y – 6 = 0 with an x-intercept of 9. Express the equation in slope-intercept form and in general form.

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