Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ms. Abadie’s \_\_\_\_\_\_\_\_\_\_\_ Period

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| **Chapter 4**  **Pre-Algebra** | Graphing and Writing Linear Equations |
| **MAFS.8.EE.2** | **Cluster 2:** Understand the connections between proportional relationships, lines, and linear equations.  **MAFS.8.EE.2.5** Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.  **MAFS.8.EE.2.6** Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b. |
| **Essential Question** | How can you recognize a linear equation? How can you draw its graph?  In this lesson I am learning how to graph linear equations, so I can find the solutions of the equation*.* |
| **4.1**  **Graphing Linear Equations** |  |
| **Example 1**  **Graphing a Linear Equation** |  |
| **Example 2**  **Graphing a Horizontal or Vertical Line** |  |
| **On Your Own** |  |
| **Example 3**  **Real Life Application** |  |
| **On Your Own** |  |
| **Essential Question** | How can you use the slope of a line to describe the line?  In this lesson I am learning how to find the ratio of the change in y to the change in x, so I can find the slope of a line*.* |
| **4.2**  **Slope of a Line** |  |
| **Example 1**  **Finding the Slope of a Line** |  |
| **Example 2**  **Finding the Slope of a Horizontal Line** |  |
| **Example 3**  **Finding the Slope of a Vertical Line** |  |
| **On Your Own** |  |
| **Example 4**  **Finding Slope from a Table** |  |
| **On Your Own** |  |
| **Summary** |  |
| **Essential Question** | How can you recognize a linear equation? How can you draw its graph?  In this lesson I am learning how to graph linear equations, so I can find the solutions of the equation*.* |
| **4.2 ext.**  **Slopes of Parallel and Perpendicular Lines** |  |
| **Example 1**  **Identifying Parallel Lines** |  |
| **On Your Own** |  |
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| **Example 2**  **Identifying Perpendicular Lines** |  |
| **On Your Own** |  |
| **Essential Question** | How can you describe the graph of the equation y=mx+b?  In this lesson I am learning how to use direct variation, so I can graph equations and interpret the slopes of the equations*.* |
| **4.3**  **Graphing Proportional Relationships** |  |
| **Example 1**  **Graphing a Proportional Relationship** |  |
| **Example 2**  **Writing and Using a Direct Variation Equation** |  |
| **On Your Own** |  |
| **Example 3**  **Comparing Proportional Relationships** |  |
| **On Your Own** |  |
| **Essential Question** | How can you describe the graph of the equation y=mx+b?  In this lesson I am learning how to use slope intercept form, so I can graph lines. |
| **4.4**  **Graphing Linear Equations in Slope Intercept Form** |  |
| **Example 1** |  |
| **On Your Own** |  |
| **Example 2**  **Graphing a Linear Equation in Slope Intercept Form** |  |
| **Example 3**  **Real Life Application** |  |
| **On Your Own** |  |

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| **Essential Question** | How can you describe the graph of the equation ax + by = c?  In this lesson I am learning how to use standard form, so I can graph lines. |
| **4.5**  **Graphing Linear Equations in Standard Form** |  |
| **Example 1**  **Graphing a Linear Equation in Standard Form** |  |
| **On Your Own** |  |
| **Example 2**  **Graphing a Linear Equation in Standard Form** |  |
| **Example 3**  **Real Life Application** |  |
| **On Your Own** |  |
| **Essential Question** | How can you write an equation of a line when you are given the slope and y intercept?  In this lesson I am learning how to use the slope and y intercept, so I can graph lines. |
| **4.6**  **Writing Equations in Slope Intercept Form**  **Example 1** |  |
| **On Your Own** |  |
| **Example 2**  **Writing Equations** |  |
| **Example 3**  **Real Life Application** |  |
| **On Your Own** |  |
| **Essential Question** | How can you write an equation of a line when you are given the slope and a point?  In this lesson I am learning how to use a point and a slope, so I can graph lines. |
| **4.7**  **Writing Equations in Point-Slope Form** |  |
| **Example 1**  **Writing Equations using a point and a slope** |  |
| **On Your Own** |  |
| **Example 2**  **Writing Equations using two points** |  |
| **Example 3**  **Real Life Application** |  |
| **On Your Own** |  |