Name: _____ Period: _____ Date: _____

# Point-Slope Form Guided Notes

## Point-Slope Form

The point-slope form of a non-vertical linear equation is given by:

$$y - y_1 = m(x - x_1)$$

Where:

$m$ = Slope of the line

$(x_1, y_1)$ = point on the line

**Problem 1: A line passes through $(1, -1)$ and has a slope 3. What is an equation for this line in point-slope form?**

**Problem 2: A line passes through two points (1,4) and (2,9). Write an equation of this line in slope-intercept form.**

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# Point-Slope Form Guided Notes

## Graphing an Equation Using Point-Slope Form

If we are given the point-slope form of a line, we can graph it by following these steps:

- Using the point-slope form, identify the point and plot it on the graph.
- Using the slope given, locate another point in either direction.
- Connect these points to plot the graph of the required line.

**Problem 3: Graph the equation $y = \frac{1}{3}(x + 1)$.**