2.5: Writing Equations of Lines

ADP Content Standards:

- ***E1.d:*** Recognize and solve problems that can be represented by single variable linear equations or inequalities or systems of linear equations or inequalities involving two or more variables. Interpret the solution(s) in terms of the context of the problem.

CCSS for High School Mathematics:

- ***A.CED.1: Create equations that describe numbers or relationships***
  Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
- ***A.CED.2: Create equations that describe numbers or relationships***
  Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

Objective:

- To write linear equations.

Point-Slope Form

The ***point-slope form*** allows one to determine the equation of a line using the line's slope (m) and any given point (x_1, y_1) on the line.

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

Example 1: Write an Equation Using Point-Slope Form

Write an equation of the line that passes through (1, 1) and (3, -2).