Lesson 1.09 Note Taking Study Guide

Writing the equation of a line

- The standard form of a linear equation is $ax + by = c$, where $a$, $b$, and $c$ are _____________ and $a$ is also ____________.

- The slope-intercept form of a linear equation is $y = mx + b$, where $m$ represents the ____________ and $b$ is the ____________.

- The point-slope form of a linear equation is $y - y_1 = m(x - x_1)$. The variable $m$ still represents the ____________ of the line while $(x_1, y_1)$ is an ____________ of any point on that line.

- The slope formula is: $m = \frac{y_2 - y_1}{x_2 - x_1}$

When writing the equation of a line given two points, use the ________________ form.

- Step 1: Calculate the slope
- Step 2: Write the point-slope form
- Step 3: Determine the slope intercept form

When writing the equation of a line given its graph, use the ________________ form.

- Step 1: Identify two points
- Step 2: Calculate the slope
- Step 3: Determine the $y$-intercept
- Step 4: Write the point-slope form.

Reminders:

- The equation of a vertical line is in the form: ____________.
- The equation of a horizontal line is in the form: ____________.