NAME _____ DATE _____

guided notes

Module 8 Writing Linear Equations of Two Variables

Lesson 3 Writing Equations of Lines, Given a Point and the Slope or Two Points

Lesson Objectives

- Write the equation of a line in slope-intercept form when given the slope of the line and a point on the line.
- Write the equation of a line in slope-intercept form when given two points on the line.

For a nonvertical line which has slope m and passes through the point (x_1, y_1), the point-slope form for a linear equation is _____.

1. Find the equation in slope-intercept form of the line that contains the point (6, 4) and has a slope of $\frac{2}{3}$.

_____

2. Find the equation in slope-intercept form of the line that contains the point (8, 9) and has a slope of 0.

_____

Any line with a slope of zero is a _____ line.

The equation of any horizontal line is of the general form

_____.

Any line with an undefined slope is a _____ line.

The equation of any vertical line is of the general form

_____.

The slopes of parallel lines are the _____.

The slopes of perpendicular lines are _____.

3 Find the equation in slope-intercept form of the line through the point (0, 0) that is parallel to the graph of $y = \frac{2}{3}x + 7$.

4 Find the equation in slope-intercept form of the line through the point (–2, 3) that is perpendicular to the graph of $y = -5x - 2$.

To find the equation of a line given two points on the line, find the _____ and then use the point-slope form of a linear equation. Choose _____ point to use in the point-slope form.

5 Find the equation in slope-intercept form of the line through the points (5, 1) and (9, 5).

6 Find the equation of the line through the point (2, 0) that is parallel to the line through the points (4, –2) and (–1, 1).