**Section 2.4—More on Slope**

Slope is defined as the ratio of the change in y to the corresponding change in x.

It describes how fast y changes with respect to x.

**Parallel Lines**—two nonintersecting lines in the same plane

**Slopes & Parallel Lines**:

* Parallel lines have the same slope.
* If 2 lines have the same slope, then they are parallel.
* If 2 lines are vertical and have undefined slopes, they are parallel.

**Example**: Write an equation of the line passing through and parallel to the line whose equation is . Express the equation in point-slope form and slope-intercept form.

**Perpendicular Lines**—two lines that intersect at a right angle

**Slopes & Perpendicular Lines**:

* Perpendicular lines have slopes that are negative reciprocals.
* If the product of the slopes of two lines is (-1), the lines are perpendicular.
* A horizontal line have zero slope is perpendicular to a vertical line with an undefined slope.

**Example**: Write the equation of the line passing through and perpendicular to the line whose equation is . Express the equation in slope intercept and general form.