

Integrated Mathematics 2 – Key Objectives | **Linear Functions Unit**

This Linear Functions Unit will encompass 3 MAJOR concepts – 2 of which you know from Integrated Math 9 and 1 of which will be new to you. The MAJOR concepts are: (1) Linear Relations, (2) Linear Equations & Systems, and (3) Functions. All three of these major concepts will be continually revisited in later units in the course, so it is important to understand these concepts and master the required skills.

(1) Linear Relations:

- Know and be able to use the formula for slope. **(R)**
- Given an equation in slope-intercept form, standard (general) form, or point-slope form, graph the corresponding line. **(R)**
- Given a line, be able to write the corresponding linear equation in slope-intercept form, standard (general) form, or point-slope form. **(R)**
- Be able to write the equations of horizontal and vertical lines. **(R)**
- Use information about parallel or perpendicular lines when writing equations for lines. **(R)**

(2) Linear Equations & Systems:

- Solve multi-step linear equations. **(R)**
- Write and solve equations that represent real-world situations. **(R)**
- Solve a literal equation for a specified variable (i.e., rearrange a formula) **(R)**

- Understand the connection between Linear Equations and Systems **(N)**
- State what is meant by the terms “system of equations” and “linear system” **(R)**
- State what a solution to a system means **(R)**
- Predict the number of solutions given a linear system. **(N)**

- Solve a system of two linear equations using multiple representations (by graphical methods, by algebraic methods, by numeric methods). **(R)**
- Write and solve a system of equations which represent modeling situations, real world applications, data analysis, geometric applications, etc..... **(R)**

(3) Function Basics

- Determine whether a relation is a function by looking at a graph or set of data. **(N)**
- Understand and identify the domain and range of a function. **(N)**
- Understand function notation and be able to evaluate and solve functions. **(N)**

- Work with piecewise linear functions: (graphing, determine domain & range, real world applications). **(N)**

- Find an inverse function algebraically and graphically. **(N)**