**Rational:**

This chapter is part review and part new concepts of functions, evaluation of functions, domains, vertical line test, symmetry, intercepts, continuity, end behavior of graphs, extrema, function transformations, operations on functions and inverses.

**Essential question:**

How are characteristics of functions and graphs related?

**Open Labs:**

1. Find the domain and range of graphs. (there are only two sets of graphs in Mrs. Albertson’s room)
2. Circuit Training – Operations with Functions

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| Lesson/Objectives | Practice Problems/ACT | Due Date |
| Test over Summer Packet in the Testing Center |  |  |
| * 1. **–Functions**   **Objectives**   * **Describe subsets of real numbers.** * **Identify and evaluate functions and state their domain.** | Page 9 # 5, 9, 11, 15-26, 29, 30, 33, 38, 48, 53, 64, 65, 68, 73, 82  ACT Review: 107-110 |  |
| **1-2 – Analyzing Graphs of Functions and Relations**  **Objectives**   * **Use graphs of functions to estimate function values and find domain, ranges, y-intercepts, and zeros of functions** * **Explore symmetries of graphs, and identify even and odd functions.** | Page 19 # 3, 7, 17, 19, 21-22, state even, odd, or neither for 25-33 odd, check algebraically 35-41 odd, 71, 73 ACT Review: 107-110 |  |
| **1-3 – Continuity, End Behavior and Limits**  **Objectives**   * **Use limits to determine the continuity of a function and apply the Intermediate Value Theorem to continuous functions.** * **Use limits to describe end behavior of functions.** | Page 30 # 1, 4, 9, 11, 13, 15, 19-20, 23-25, 31, 43, 46, 61, ACT Review: 80-82 |  |
| 1-4 – Extrema and Average Rates of Change  Objectives   * Determine intervals on which functions are increasing, constant, or decreasing, and determine maxima and minima of functions. * Determine the average rate of change of a function. | Page 40 # 1, 5-7, 11, 13, 17, 18, 23, 25, 32, 33, 35, 43, 46, 55-59 odd,  ACT Review: 94-96  Optional Page 44 #1-15 for quiz practice |  |
| Quiz in class |  |  |
| **1-5 – Parent Functions and Transformations**  Objectives   * Identify and graph parent functions * Identify and graph transformations of parent functions | Worksheet |  |
| **1-6 – Function Operations and Composition of Functions**  Objectives   * Perform operations with functions. * Find compositions of functions. | Page 61 # 7, 12, 13, 19, 23, 29, 31, 36, 38, 41, 53, 61-66, 68, ACT Review: 106-107  Extra Credit on Homework  Due on the review day.  Page 64 #108 |  |
| **1**-7 – **Inverse Relations and Functions**  Objectives   * Use the horizontal line test to determine inverse functions. * Find inverse functions algebraically. | Page 70 #9, 11 15, 17, 24, 27, 32, 45, 46-51, ACT Review 101-104 |  |
| **Test over Lap 1 in the Testing Center** | **SUMMATIVE ASSESSMENT** |  |