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| **INSTRUCTIONAL OBJECTIVES:** Pages 115 – 121 (Chapter 1: *Inverse Relations and Inverse Functions*). |
| * Review the definitions of relation and function. |
| * Understand the definition of a *One-to-One Function.* |
| * Be able to use the *Vertical Line Test* and the *Horizontal Line Test* to identify *One to One Functions.* |
| * Find the inverse of a function. |
| * Know when to use inverse functional notation. |
| * Know how to prove that 2 functions are inverses of each other by the appropriate use of composition. |
| * Define a relation parametrically. |
| * **Technology:** Smart Board, graphing calculator (TI-83 or TI-84). |

**CHAPTER 2: *Quadratic Functions and Their Graphs* (Pages 158-162)**

**Key Concepts**: Quadratic Function, Parabola, Axis of Symmetry, Vertex, Concave Upward, Concave Downward, Maximum, Minimum, Vertex Quadratic Form, Standard Quadratic Form, X-Intercept, Zero, Y-Intercept

**Essential Questions:**  In what ways are you able to characterize the graph of a quadratic function, both in standard and in vertex forms? How can you use your graphing calculator to characterize the graph of a quadratic function? How can you use quadratic functions to solve real-life problems?

**Objective:** The student will demonstrate an understanding of the characteristics of functions.

**Technology:** Graphing calculator (TI-84).

***TUESDAY, 10.8.24***

**Discuss the previously assigned work:** Page 163: #19 – 25, odds.

**Class Work:**

* Learn how to transform standard quadratic form into vertex quadratic form.
* Pages 163, 164 (#27 – 32, 39, 41, 43).

**Homework:**

* Visit this website, reading and taking notes: <https://www.csun.edu/~ayk38384/notes/mod11/Parabolas.html>
* Study for the **Quiz** (Given a function in standard quadratic form, find the vertex and axis of symmetry. Then, rewrite the function in vertex-quadratic form.). Study #27 – 32, which we went over in class, and example 6 on pages 159 and 160. You may use one page of notes, written on a sheet, 8.5 by 11 inches, when you take this quiz. This quiz will be taken during your next class period.

***THURSDAY, 10.10.24***

**Quiz** (Given a function in standard quadratic form, find the vertex and axis of symmetry. Then, rewrite the function in vertex-quadratic form.) You may use one page of notes, written on a sheet, 8.5 by 11 inches, when you take this quiz.

**Class Work/Homework:**

* Visit this website, reading and taking notes: <https://www.csun.edu/~ayk38384/notes/mod11/Parabolas.html>
* Graph the following parabolas. Be sure to plot and label the vertex, y-intercept, x-intercepts, if any, and the axis of symmetry. If there are no x-intercepts, be sure to find and label points to the left and right of the vertex to establish the correct curvature. Round all values to the nearest tenth.

1. y = 3x2 + 8x – 16
2. y = - 2x2 + 8x – 1
3. y = 3x2 + 4x
4. y = 4x2 + 6x + 3
5. y = 6(x – 5)2
6. y = -4(x + 4)2 + 2

***FRIDAY, 10.11.24***

**Discuss the previously assigned work: The graphs of 6 parabolas.**

**Class Work/Homework:**

* **Page 241: # 3 – 8, 13 – 16.**