# **Unit Plan - Chapter 8**

# **Quadratic Functions**

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In Chapter 2, you used a web to organize the connections you found between each of the different representations of lines. These connections enabled you to use any representation (such as a graph, rule, situation, or table) to find any of the other representations. You did the same thing in Chapter 7 for exponential functions.

In this chapter, a quadratics web will challenge you to find connections between the different representations of a quadratic function. Through this endeavor, you will learn how to rewrite quadratic equations in several forms, and how to use your graphing calculator to assist you.

**Day One -** Introduction to Factoring Quadratic Expressions

**Objectives:** Students will review how to build rectangles with tiles and learn shortcuts for finding the dimensions of a completed generic rectangle. Students will discover that the products of the terms in each diagonal of a generic rectangle are equal.

**Agenda:** Introdcution to Quadratics

 Problems 8-1 to 8-4

8-5 - Learning Log Exit Sheet

**Homework:** 8-6, 8-7, 8-9, 8-11

**Day Two** - Factoring with Generic Rectangles

**Objectives:** Students will develop an algorithm to factor quadratic expressions without algebra tiles.

**Agenda:** Homework check

 8-10 Warm-Up

 Problems 8-13 to 8-16

**Homework:** 8-17, 8-18, 8-21, 8-22, 8-23

**Day Three -** Factoring with Special Cases

**Objectives:** Students will continue to practice their factoring skills while learning about special cases: quadratic expressions with missing terms, quadratics that are not in standard form, and quadratics with more than one possible factored form.

**Agenda:** Homework Check

 Problems 8-24 to 8-27

 8-28 Learning Log

**Homework:** 8-30, 8-31, 8-33

**Day Four -** Factoring Completely

**Objectives:** Students will complete their focus on factoring by considering expressions that can be factored first with a common factor and then again using the quadratic factoring method.

**Agenda:** Homework Check

**Mini-Quiz**

Problems 8-35 to 8-38

**Homework:** 8-41 to 8-44

**Day Five -** Factoring Shortcuts

**Objectives:** Students will learn a quick way to factor perfect square trinomials and quadratics that are a difference of squares.

**Agenda:** Homework Check

 Problems 8-45 to 8-47

 Learning Log 8-48

**Homework:** 8-49, 8-50, 8-51, 8-53

**Day Six -** Review Day

**Objectives:** Students will review concepts of factoring Quadratic functions.

**Agenda:** Homework Check

 Review problems and activities

**Homework: ?**

**Day Seven -** Test Day

**Objectives:** Successful unit assessment on exponential and quadratic functions.

**Agenda:** Unit Test

**Homework:** None