

## Chapter 5 Standards & Objectives (using Prentice Hall Text, *Algebra-2*)

Algebra-2 AA, Grade 10/11

**\*Objective(s)** *Students will be able to:*

1. Identify quadratic functions and graphs.
2. Model data with quadratic functions.
3. Graph quadratic functions.
4. Find maximum and minimum values of quadratic functions.
5. Use the vertex form of a quadratic function.
6. Find common and binomial factors of quadratic expressions.
7. Factor special quadratic expressions.
8. Solve quadratic equations by factoring and by finding square roots.
9. Solve quadratic equations by graphing.
10. Identify and graph complex numbers.
11. Add, subtract, and multiply complex numbers.
12. Solve equations by completing the square.
13. Rewrite functions by completing the square.
14. Solve quadratic equations by using the Quadratic Formula.
15. Determine types of solutions by using the discriminant.

### **ODE Standard, Grade Band Benchmark and/or Grade Level Indicator(s)**

#### **Patterns, Functions, and Algebra**

Grade 9 / 2. Generalize patterns using functions or relationships (linear, quadratic and exponential), and freely translate among tabular, graphical and symbolic representations.

Grade 9 / 3. Describe problem situations (linear, quadratic and exponential) by using tabular, graphical and symbolic representations.

Grade 9 / 4. Demonstrate the relationship among zeros of a function, roots of equations, and solutions of equations graphically and in words.

Grade 9 / 5. Describe and compare characteristics of the following families of functions: linear, quadratic and exponential functions; e.g., general shape, number of roots, domain, range, rate of change, maximum or minimum.

Grade 9 / 10. Solve quadratic equations with real roots by factoring, graphing, using the quadratic formula and with technology.

Grade 9 / 15. Describe how a change in the value of a constant in a linear or quadratic equation affects the related graphs.

Grade 10 / 10. Solve real-world problems that can be modeled using linear, quadratic, exponential or square root functions.

#### **Assignments:**

- 5.1 # 1, 5, 9, 11, 13, 17, 19, 33, 37, 40, 42, 43, **GC: 21, 22, 38**
- 5.2 # 1, 10, 11, 23, 25, 28, 29, 31, 33, 35-39, 42-44, 48, 57, 68
- 5.3 # 1, 3, 5, 13, 15, 21, 27, 28, 43, 44, 51, 52, 69, 78, 79
- 5.4 # 1-45 EOO, 46-47, 51-65 EOO, 66-67, 79-80
- 5.4 # 3-43 EOO, 48-49, 53-63 EOO, 70-71, 73-77 odd, 82, 84
- 5.5 # 1-17 EOO, 33, 35, 37-53 EOO, 55, 59, 64, **GC: 27, 29**
- 5.6 # 1-49 EOO, 51, 54-56, 57-65 EOO, 67, 68
- 5.7 # 1-33 EOO, 35-41 odd, 45, 51-63 EOO
- 5.8 # 1-39 EOO, 40, 41-51, EOO, 53, 57-59, 63, 65-67, 69, 73, 75
- Chapter 5 Practice Test Worksheet