

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

Algebra-2, Grade 10/11

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

1. Graph relations.
2. Identify functions.
3. Graph linear equations.
4. Write equations of lines.
5. Write and interpreting direct variation equations.
6. Write linear equations that model real-world data.
7. Make predictions from linear models.
8. Graph absolute value functions.
9. Analyze translations.
10. Analyze stretches, shrinks, and reflections.
11. Graph linear inequalities.
12. Graph absolute value inequalities.

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

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

- Grade 9 / 1. Define function with ordered pairs in which each domain element is assigned exactly one range element.
- 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 / 6. Write and use equivalent forms of equations and inequalities in problem situations; e.g., changing a linear equation to the slope-intercept form.
- Grade 9 / 8. Find linear equations that represent lines that pass through a given set of ordered pairs, and find linear equations that represent lines parallel or perpendicular to a given line through a specific point.
- Grade 9 / 14. Differentiate and explain types of changes in mathematical relationships, such as linear vs. nonlinear, continuous vs. noncontinuous, direct variation vs. inverse variation.
- 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 / 1. Define function formally and with  $f(x)$  notation.
- Grade 10 / 3. Solve equations and formulas for a specified variable; e.g., express the base of a triangle in terms of the area and height.
- Grade 10 / 9. Recognize and explain that the slopes of parallel lines are equal and the slopes of perpendicular lines are negative reciprocals.
- Grade 10 / 10. Solve real-world problems that can be modeled using linear, quadratic, exponential or square root functions.
- Grade 10 / 11. Solve real-world problems that can be modeled, using systems of linear equations and inequalities.

#### **Data Analysis & Probability**

- Grade 11 / 4. Create a scatterplot of bivariate data, identify trends, and find a function to model the data.
- Grade 11 / 8. Analyze and interpret univariate and bivariate data to identify patterns, note trends, draw conclusions, and make predictions.

#### **Mathematical Processes**

- Grades 8-10/ A, B, C, D, E, F, G, H  
Grades 11-12 / H, I, J

### **Assignments**

- 2.1 # 1-35 EOO, 36-42, 46, 50-54, 58-61
- 2.2 # 1-25 EOO, 27-37 ODD, 38-41, 53, 54, 61, 70, 75, 77, 79, 82, 84
- 2.3 # 1-27 EOO, 23, 28-29, 33-34, 42-43, 46-47, 52, 55-59
- 2.4 # 2, 4, 7, 12, 15-18, 19, 26-28
- 2.5 # 1, 5, 19, 22, 25, 29-32, 38, 40, 42, 43, 48, 55, 58, 59
- 2.6 # 1-14, 17-19, 29-34 (don't graph), 40, 44, 45, 48, 50, 52, 55
- 2.7 # 1, 5, 9, 10, 13, 14, 20-22, 23, 26, 29, 30, 33, 36-41, 43
- Chapter 2 Performance Assessment & Enrichment
- Chapter 2 Practice Test Worksheet