Honors Algebra II – Summer Assignment 2022

Welcome to Honors Algebra II. Since the goal of this class is to get you ready for Pre-Calculus (preparation for AP Calculus), Honors Algebra II is a fast-paced, rigorous course. To get a head start on what we need to accomplish throughout the year, you will complete chapter 1 in your textbook over the summer. No worries though, chapter 1 is a review chapter to re-familiarize yourself with some of the basic concepts of Algebra I. Please do all your work in a spiral bound notebook. Label everything and be as neat as possible. All work will be due the first Friday of school for a completion check. We will spend the first full week of school reviewing the work you did over the summer. Thank you for all your hard work! See you soon.

Chapter 1 Expressions, Equations, and Inequalities

Lesson 1.1 Patterns and Expressions

A. Vocabulary Development (define the following words in your notebook)

- Pattern
- Mathematical quantity
- Value of a quantity
- Constants
- Variable quantities
- Variable
- Numerical expression
- Algebraic expression

B. After reading the lesson and reviewing the sample problems, complete each of the "Got It?" problems on pages 4, 5, 6. Be sure to do each part of each problem.

C. Complete the Lesson Check on page 7, #1-7

Lesson 1.2 Properties of Real Numbers

A. Vocabulary Development (define the following words in your notebook)

- Set
- Subset
- Real numbers
- Irrational numbers
- Rational numbers
- Whole numbers
- Integers
- Natural numbers
- Properties of real numbers
- Additive identity
- Multiplicative identity
- Additive inverse (opposite)
- Reciprocal or multiplicative inverse

B. Copy the Properties of Real Numbers from page 14 into your notebook.

C. After reading the lesson and reviewing the sample problems, complete each of the "Got It?" problems on pages 12, 13, 14. Be sure to do each part of each problem.

D. Complete the Lesson Check on page 15, #1-9

Lesson 1.3 Algebraic Expressions

A. Vocabulary Development (define the following words in your notebook)

- ❖ Evaluate
- ❖ Term
- ❖ Coefficient
- ❖ Constant
- ❖ Like terms
- ❖ Simplify

B. Copy the Concept Summary from page 21 into your notebook.

C. After reading the lesson and reviewing the sample problems, complete each of the "Got It?" problems on pages 18, 19, 20, 21. Be sure to do each part of each problem.

D. Complete the Lesson Check on page 22, #1-9

Lesson 1.4 Solving Equations

A. Vocabulary Development (define the following words in your notebook)

- ❖ Equation
- ❖ Solution of an equation
- ❖ Isolate the variable
- ❖ Inverse operations
- ❖ No solution
- ❖ Identity
- ❖ Literal equation
- ❖ "In terms of…"

B. Copy the Properties of Equality from pages 26-27 into your notebook.

C. After reading the lesson and reviewing the sample problems, complete each of the "Got It?" problems on pages 27, 28, 29. Be sure to do each part of each problem.

D. Complete the Lesson Check on page 30, #1-9

Lesson 1.5 Solving Inequalities

A. Vocabulary Development (define the following words in your notebook)

- ❖ Inequality
- ❖ Boundary point
- ❖ Open dot
- ❖ Closed dot
- ❖ Solutions of an inequality
- ❖ Compound inequality
- ❖ *And* inequality
- ❖ *Or* inequality

B. Copy the Key Concept and Properties of Inequalities from pages 33 and 34 into your notebook.

C. After reading the lesson and reviewing the sample problems, complete each of the "Got It?" problems on pages 34, 35, 36, 37. Be sure to do each part of each problem.

D. Complete the Lesson Check on page 37, #1-9

Lesson 1.6 Absolute Value Equations and Inequalities

A. Vocabulary Development (define the following words in your notebook)

- ❖ Absolute value
- ❖ Extraneous solution
- ❖ Tolerance
- ❖ Tolerance is…
- ❖ Tolerance can be described using…

$$average = \frac{max + min}{2}$$

$$tolerance = \frac{|max - min|}{2}$$

$$|actual - target| \leq tolerance$$

B. Copy the Concept Summary from page 44 into your notebook.

C. After reading the lesson and reviewing the sample problems, complete each of the "Got It?" problems on pages 42, 43, 44, 45. Be sure to do each part of each problem.

D. Complete the Lesson Check on page 45, #1-9