Carefully read the ***Instruct*** portion in Hawkes for the section listed. You are preparing your mind for the classroom lecture by viewing this material beforehand. Learning to read a math textbook is a skill different from reading other types of texts or books. Slow down and read ALL the details – learn to "hear" the authors' voice – this will take some time, effort and practice. When you feel frustrated, take a short break from your studies. Come back, and try again.

Chapter #1: Integers and Real Numbers

Before we start the journey into Algebra, we need to understand more about the numbers and number concepts forming the foundation of Algebra. The number zero, 0, is important in much of what we do. We will also discuss the magnitude of numbers or their absolute value.

Section 1.1a: The Real Number Line and Inequalities

Objectives

* Identify types of numbers.

* Determine if a given number is greater than, less than, or equal to other given numbers.

Instruct

1. Draw a number line with values ranging from -10 to 10.

2. On which side of the number line are the negative numbers located? RIGHT or LEFT

3. As we move from right to left on the number line, do the numbers get BIGGER or SMALLER?

4. Based upon your answers to questions 3 and 4 above, is a negative number always bigger or smaller than a positive number?

5. Is the inequality $-4 < -2$ the same as $-2 > -4$? Why or why not?

6. Is a $\sqrt{2}$ rational number? Why or why not?

7. Graph the following set of numbers on a number line; then list the numbers in order from least to greatest using inequality symbols.

    $$\{-2, 3, -5.5, -\frac{7}{2}\}$$

8. Determine if the following statement is TRUE or FALSE. $-7 > -4$

9. If false, rewrite to form of a true statement using an inequality symbol.

10. Graph the following set of integers on a number line.   (All integers less than 2)

Section 1.1b: Introduction to Absolute Value

Objectives

Determine the absolute value of integers.

Instruct

1. **ABSOLUTE VALUE** is defined as the distance a number is from the number, _____ on the number line.

2. Translate using the correct symbol: the absolute value of -8.

3. Is the absolute value of a real number ever negative? Yes or No

4. Find the real number(s) that satisfy the equation: $|x| = 12$

5. Is there any solution to: $|x| = -12$? Why or why not?

6. List the set of **integers** which are solutions to the following: $|x| < 3$

Section 1.2: Addition with Real Numbers

Objectives

- Add real numbers.

Instruct

1. The sum of two positive integers is _____ .

2. The sum of two negative integers is _____ .

3. The sum of a positive integer and a negative integer may be positive or negative, depending on which number is _____ from zero.

4. When adding integers with the same sign (either positive or negative) we _____ the absolute value of each number and assign the _____ sign to our answer.

5. When adding integers with unlike signs, we _____ their absolute values and assign the sign of the number with the _____ value to our answer.

6. Compute the sum: $5+(-12)$

7. Compute the sum: $3+5+(-3)$