Unit 3 Module B Notes Sections 8.3, 9.6, 10.1-10.2, 11.1

View the PowerPoint, Videos, or Textbook for Module 3B.

<u>Vocabulary</u> ***Fill in the blanks.***

1. (Section 8.3) When two pairs of numbers, such as 3, 2 and 6, 4, have the same ratio, we say that they are _____.

2. (Section 9.6) The equation $a^2 + b^2 = c^2$ is called the _____ _____.

3. (Section 10.1) We call $14,295 - x = 9,731$ an _____ _____.

4. (Section 10.2) The set of _____ _____ is the set of all numbers corresponding to points on the number line.

5. (Section 11.1) An expression of the type $M \times 10^n$ where n is an integer, $1 \le M < 10$ and M is expressed in decimal notation is known as _____ _____

<u>Problems</u> ***Show ALL steps.***

1. (Section 8.3) Solve the proportions:

    $$\frac{x}{9} = \frac{5}{4}$$

    a. express your answer
        as a simplified
        fraction

    $$\frac{21}{5} = \frac{n}{2.5}$$

    b. express your answer
        as a decimal

    $$\frac{1\frac{1}{3}}{x} = \frac{4\frac{}{5}}{6}$$

    c. express your answer
        as an integer or a
        mixed number

2. (Section 9.6) Find the length of the hypotenuse of a right triangle whose legs are 5 ft. and 12 ft.

    .

3. (Section 10.1) Evaluate:

   a. $\dfrac{8y}{z}$ when $y = 3$ and $z = 6$ b. $\dfrac{m-n}{5}$ when $m = 16$ and $n = 6$

4. (Section 10.1) Translate each phrase to an algebraic expression. Use n as your variable.

   a. Three less than five times a number _____

   b. Twenty two percent of a number _____

5. (Section 10.2) Use > or < to write a true sentence.

   a. 1.5 ___ -2.7

   b. $\dfrac{5}{8}$ ___ $\dfrac{7}{11}$

6. (Section 10.2) Find the absolute value:

   a. $|0|$ b. $|-12.6|$

7. (Section 11.1)
   a. Convert to scientific notation: 987,654,321,000 _____

   b. Convert to decimal notation: 5.3328×10^{-8} _____