New!

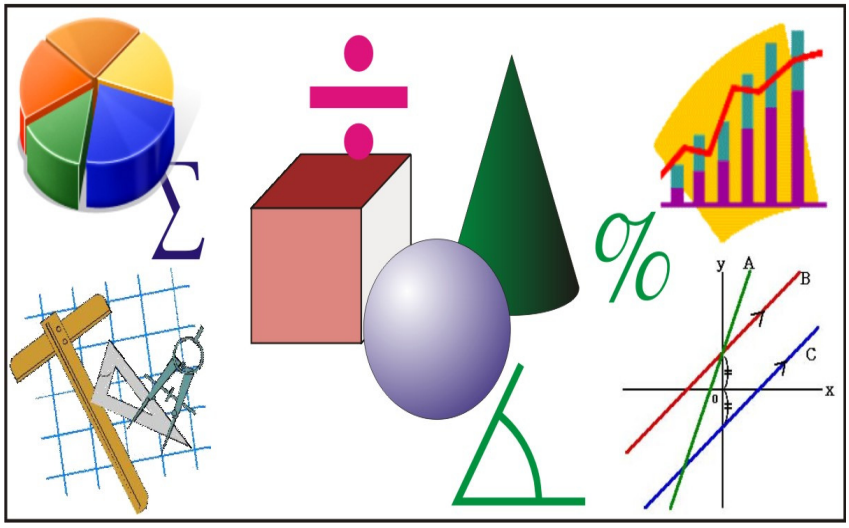
DISTRIBUTED LEARNING

TERM #2

MATHEMATICS GRADE 7

Designed from the WNCP Curriculum
for the Western Provinces and the Territories

STUDENT GUIDE AND RESOURCE BOOK



BASED ON THE WESTERN PROTOCOLS FOR 2008 AND BEYOND

Raven Research Associates, Inc.

TERM #2 OVERVIEW - MATHEMATICS GRADE 7

Welcome to Term #2 of Grade 7 Mathematics.

Term #2
In Term #1 you completed topics on Operations with Decimals, Percent, Fractions, and Integers. In this term you will be working with the following topics:

- Patterns and Relations
- Word and Mathematical Statements
- Variables and Equations
- Solving Equations
- Circles and Central Angles

The Mathematics 7 Course

This Distributed Learning Mathematics 7 course is designed to help you to learn important concepts in mathematics and to undertake related tasks in the environment.

It requires that you work on your own and with assistance from teachers of Distributed Learning. To help this happen key concepts in the course are clearly described with examples that include step-by-step solutions. Numerous practice exercises are provided to help reinforce the knowledge and skills you develop. The answers to each of these exercises are provided at the end of this book.

Within each term booklet are send-in exercises which you are to complete and send to your teacher for marking. In this way you will get feedback on your strengths as well as areas in need of further assistance.

The full Math 7 course consists of three terms: **Term 1** involves concepts in and applications with decimals, fractions, integers and percent. In **Term 2** you learn about patterns, variables and equations, and measurement concepts. **Term 3** completes the topic of measurement and then goes on to teach you about 2-dimensional shapes, transformations, and probability and statistics.
Each module begins with a pre-test that you are required to write. Results from the pre-test provide information about which content you already know and which areas require additional study.

An outline of the contents for Term #2 is on the next page.

TABLE OF CONTENTS – TERM #2

MODULE 3-Patterns, Variables and Relations

SAMPLE LESSON

LESSON #21 - Equations

Equations

- When one mathematical expression is equal to another it is called an **equation**.

  e.g. $3y + 2 = 10$

  Note: It is important to distinguish between an expression and an equation. An expression is a statement that can have a value but it is not set equal to another expression.
  e.g.

Expressions	Equations
$3x$	$3x = 5$
$2a - 5$	$2a - 5 = 20$

Examples with Step-by-Step Solutions

1. Identify whether each of the following is an expression or an equation.

	Answer
a. $7 - 21x$	*expression*
b. $6x + 1 = 12$	*equation*

2. What would you add to each of the following to make them into equations?

a. $12 + 9 = ?$	*Since 12 + 9 = 21, add 21 to the right hand side to make an equation which is a true statement*
b. $15 - 9 = ?$	*Since 15 – 9 = 6, add 6 to the right hand side to make an equation which is a true statement*

Practice Exercises Lesson 21

1. Identify whether each of the following is an expression or an equation.

   a. $3b - 2$

   b. $4y$

   c. $2r = 7$

   d. $4x + 5$

   e. $2x - 1 = 4 - x$

   f. $7a = 14$

   g. $\frac{3}{5}t - 7$

   h. $\frac{3}{5}t - 7 = 21$

   i. There are twice as many boys as girls.

   j. The sum of twice a number and five is equal to seventeen.

   k. The difference between twice a number and five.

   l. The product of 6 and a number is the same as 15 less than 195.

   m. The quotient of a number and 4.