Dominican International School

SUBJECT: Pre-Algebra

GRADE LEVEL: 7th-Grade　　　　　　　**SCHOOL YEAR: 2022/2023**

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COURSE DESCRIPTION:

　　Mathematics 7 intends to review past concepts that are important for students to learn Algebra. The students will learn to do basic operations with numbers in different forms (e.g. fractions, decimals, percentages). In addition, the students will learn basic problem solving techniques crucial for critical thinking.
　　The course will follow the Common Core State Standards (CCSS).

COURSE OBJECTIVES:

Ratios and Proportional Relationships

- Analyze proportional relationships and use them to solve real world and mathematical problems.

The Number System

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations

- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry

- Understand and apply the Pythagorean Theorem.

PRIMARY TEXTBOOK & OTHER RESOURCES:

Beginning Algebra Grade 7 Mathematics by John Tobey et al
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https://quizizz.com

ASSESSMENT:

Pop Quizzes will be conducted unannounced.
Students will be given a quiz after the completion of every chapter.
Quarter exam will be conducted at the end of each quarter.
Homework, Seatwork, and Group work, will also be assessed.

This course will be assessed on the following four categories:

- Tests and Quizzes (30%)

- Seatwork, Homework and Participation (30%)

- Quarter Exam (30%)

- Deportment (10%)

ADDITIONAL INFORMATION:

Week / Date	Topic / Projects / Assessments
(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week 1 **Aug 10th to 12th** **3 Days of Class** *10~ First Day / Orientation Day*	**Chapter 0: A Brief Review of Arithmetic Skills** 0-1: Simplifying Fractions 0-2: Adding and Subtracting Fractions
Week 2 **Aug 15th to 19th** *Opening Mass*	0-3: Multiplying and Dividing Fractions 0-4: Using Decimals
Week 3 **Aug 22nd to 26th**	0-5: Percent, Rounding and Estimating 0-6: Using the Mathematics Blueprint for Problem Solving **Test 1 (0.1 – 0.6)**
Week 4 **Aug 29th to Sep 2nd**	**Chapter 1: Real Numbers and Variables** 1-1: Adding Real Numbers 1-2: Subtracting Real Numbers 1-3: Multiplying and Dividing Real Numbers
Week 5 **Sep 5th to 9th** **4 Days of Class**	1-4: Exponents 1-5: The Order Operations 1-6: Using the Distributive Property to Simplify Algebraic Expressions

8~ Mass &Birthday Mother Mary *9th – Moon Festival*	
Week 6 **Sep 12th to 16th** <mark>FYI</mark> – Pre-Exam Days	1-7: Combining Like Terms 1-8: Using Substitution to Evaluate Algebraic Expressions and Formulas 1-9: Grouping Symbols **Test 2 (1.1 – 2.9)**
Week 7 **Sep 19th to 23rd**	**Chapter 2: Equations and Inequalities** 2-1: Addition Principle of Equality 2-2: The Multiplication Principle of Equality 2-3: Using the Addition and Multiplication Principles Together
Week 8 **Sep 26th to 30th** **2 Days of Class** *28-30 ~Teacher's Conference*	2-4: Solving Equations with Fractions 2-5: Formulas 2-6: Solving Inequalities in One Variable **Test 3 (2.1 – 2.6)**
Week 9 **Oct 3rd to 7th** **3 Days of Class** *6-7 ~Q1 Exams*	**Chapter 0, 1, and 2 Revision** **First Quarter Examination**

2nd QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week / Date	Topic / Projects / Assessments
Week 1 (10) **Oct 10th to 14th** **4 Days of Class** *10 – Double 10 Holiday*	**Chapter 3: Solving Applied Problems** 3-1: Translating English Phrases into Algebraic Expressions 3-2: Using Equations to Solve Word Problems
Week 2 (11) **Oct 17th to 21st**	3-3: Solving Word Problems: Comparisons 3-4: Solving Word Problems: The Value of Money and Percent 3-5: Solving Word Problems Using Geometric Formulas
Week 3 (12) **Oct 24th to 28th** *25-27 – Book Fair*	3-6: Using Inequalities to Solve Word Problems

28- Masquerade Night *TBA-Holy Rosary Mass*	**Test 1 (3.1– 3.6)**
Week 4 (13) **Oct 31st to Nov 4th** *1-All Saint's Day Mass*	**Chapter 4: Exponents and Polynomials** 4-1: The Rules of Exponents 4-2: Negative Exponents and Scientific Notations 4-3: Fundamental Polynomial Operations
Week 5 (14) **Nov 7th to 11th**	4-4: Multiplying Polynomials 4-5: Multiplication: Special Cases 4-6: Dividing Polynomials **Test 2 (4.1– 4.6)**
Week 6 (15) **Nov 14th to 18th**	**Chapter 5: Factoring** 5-1: Removing a Common Factor 5-2: Factoring by Grouping
Week 7 (16) **Nov 21st to 25th** *25 - YSC Contest* *25-Gr.12 Q2 Exam*	5-3: Factoring Trinomials of the Form: $x^2 + bx + c$ 5-4: Factoring Trinomials of the Form: $ax^2 + bx + c$
Week 8 (17) **Nov 28th to Dec 2nd** FYI – Pre-Exam Days *28-Gr.12 Q2 Exam*	5-5: Special Cases of Factoring 5-6: A Brief of Factoring
Week 9 (18) **Dec 5th to 9th** *8 - Foundation Day Celebrations*	5-7: Solving Quadratic Equations by Factoring **Test 3 (5.1– 5.7)**
Week 10 (19) **Dec 12th to 16th** **3 Days of Class** *15-16 ~Q2 Exams*	**Chapter 3, 4, and 5 Revision** **Second Quarter Examination**
Dec 19th to Jan 2nd	**Christmas Break**

3rd QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)

Week / Date	Topic / Projects / Assessments
Week 1 (20) **Jan 5 to 6th** <u>**2 Days of Class**</u>	**Chapter 6: Rational Expressions and Equations** 6-1: Simplifying Rational Expressions
Week 2 (21) **Jan 9th to 13th**	6-2: Multiplying and Dividing Rational Expressions 6-3: Adding and Subtracting Rational Expressions 6-4: Simplifying Complex Rational Expressions
Week 3 (22) **Jan 16th to 20th**	6-5: Solving Equations Involving Rational Expressions 6-6: Ratio, Proportion and Other Applied Problems **Test 1 (6.1– 6.6)**
Jan 23rd to 27th	**Chinese New Year**
Week 4 (23) **Jan 30th to Feb 3rd**	**Chapter 7: Graphing and Functions** 7-1: The Rectangular Coordinate System 7-2: Graphing Linear Equations 7-3: The Slope of a Line
Week 5 (24) **Feb 6th to 10th**	7-4: Writing the Equation of Line 7-5: Graphing Linear Inequalities 7-6: Functions **Test 2 (7.1– 7.6)**
Week 6 (25) **Feb 13th to 17th**	**Chapter 8: Systems of Equations** 8-1: Solving a System of Equations in Two Variables by Graphing 8-2: Solving a System of Equations in Two Variables by the Substitution Method
Week 7 (26) **Feb 20th to 24th** *20-24 ~IOWA* *22 ~ Ash Wednesday Mass* *21-23 ~ Pre-Exam Days*	8-3: Solving a System of Equations in Two Variables by the Addition Method 8-4: Review of Methods for Solving Systems of Equations
Week 8 (27)	8-5: Solving Word Problems Using Systems of Equations

Week / Date	Topic / Projects / Assessments
Feb 27th to March 3rd **3 Days of Class** 27-28 ~ 228 Memorial Day Holiday	**Test 3 (8.1– 8.5)**
Week 9 (28) **March 6th to 10th** **4 Days of Class** 11 – Q3 Exams	**Chapter 6, 7 and 8 Revision** **Second Quarter Examination**

4th QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week / Date	Topic / Projects / Assessments
Week 1 (29) **March 13th to 17th** **4 Days of Class** 13 – Q3 Exams 14~ Q4 Begins	**Chapter 9: Radicals** 9-1: Square Roots 9-2: Simplifying Radical Expressions 9-3: Adding and Subtracting Radical Expressions
Week 2 (30) **March 20th to 24th** 20 ~ Fire Drill	9-4: Multiplying Radical Expressions 9-5: Dividing Radical Expressions **Test 1 (9.1– 9.5)**
Week 3 (31) **March 27th to 31st**	9-6: The Pythagorean Theorem and Radical Equations 9-7: Word Problems Involving Radicals: Direct and Inverse Variation **Test 2 (9.6– 9.7)**
Apr 3rd to 14th	**Easter Break**
Week 4 (33) **Apr 17th to 21st**	**Chapter 10: Quadratic Equations** 10-1: Introduction to Quadratic Equations 10-2: Using Square Root Property & Completing the Square to Find Solutions
Week 5 (34) **Apr 24th to 28th** 24-28 ~ AP Mock Exams	10-3: Using the Quadratic Formula to Find Solutions 10-4: Graphing Quadratic Equations
Week 6 (35) **May 1st to 5th** 2-4~ Pre-Exam	10-5: Formula and Applied Problems **Test 2 (10.1– 10.5)**

1-5~ Final Exams (K, 5, 8, 12 only) *1-5 ~ AP Exams*	
Week 7 (36) **May 8th to 12th** *8-12~ Final Exams (K, 5, 8, 12 only)* *1-5 ~ AP Exams*	**Chapter 9 and 10 Revision**
Week 8 (37) **May 15th to 19th** **3 Days of Class** *18-19~ Q4 Exams*	**Second Quarter Examination**
Week 9 (38) **May 22nd to 26th** **4 Days of Class** *22~ Record Day* *23-26 ~ Student Clearance*	**Give out Fourth Quarter Exam papers and discuss the answers.**
Week 10 (39) **May 29th to June 2nd** **4 Days of Class** *1 ~ Students Last Day* *2~ Teachers/Staff Meeting*	