**Syllabus for Pre-Algebra**

This course is based on the book *Pre-Algebra*, written by Mathematicians at the College of Redwoods.

|  |  |  |  |
| --- | --- | --- | --- |
| Day | Lesson | Topic | Page |
|  |  | Math History and Application – Chapter 1 |  |
|  | 1.1 | Chapter 1: An Introduction to the Whole Numbers | 1-9 |
|  | 1.2 | Adding and Subtracting Whole Numbers | 15-25 |
|  | 1.3 | Multiplication and Division of Whole Numbers | 33-44 |
|  | 1.4 | Prime Factorization | 51-58 |
|  | 1.5 | Order of Operations | 64-71 |
|  | 1.6 | Solving Equations by Addition and Subtraction | 75-85 |
|  | 1.7 | Solving Equations by Multiplication and Division | 88-94 |
|  |  | Chapter 1 Review |  |
|  |  | Chapter 1 Test |  |
|  | 2.1 | Chapter 2: An Introduction to Integers | 97-106 |
|  | 2.2 | Adding Integers | 113-123 |
|  | 2.3 | Subtracting Integers | 128-133 |
|  | 2.4 | Multiplication and Division of Integers | 137-145 |
|  | 2.5 | Order of Operations with Integers | 148-152 |
|  | 2.6 | Solving Equations Involving Integers | 156-167 |
|  |  | Chapter 2 Review |  |
|  |  | Chapter 2 Test |  |
|  |  | Math History and Application – Chapter 2 |  |
|  | 3.1 | Chapter 3: Mathematical Expressions | 171-177 |
|  | 3.2 | Evaluating Algebraic Expressions | 179-183 |
|  | 3.3 | Simplifying Algebraic Expressions | 187-195 |
|  | 3.4 | Combining Like Terms | 197-205 |
|  | 3.5 | Solving Equations Involving Integers II | 208-213 |
|  | 3.6 | Application | 216-224 |
|  |  | Chapter 3 Review |  |
|  |  | Chapter 3 Test |  |
|  |  | Math History and Application – Chapter 3 |  |
|  | 4.1 | Chapter 4: Equivalent Fractions | 229-243 |
|  | 4.2 | Multiplying Fractions | 249-260 |
|  | 4.3 | Dividing Fractions | 265-270 |
|  | 4.4 | Adding and Subtracting Fractions | 275-285 |
|  | 4.5 | Multiplying and Dividing Mixed Fractions | 291-297 |
|  | 4.6 | Adding and Subtracting Mixed Fractions | 301-308 |
|  | 4.7 | Order of Operations with Fractions | 311-321 |
|  | 4.8 | Solving Equations with Fractions | 326-336 |
|  |  | Chapter 4 Review |  |
|  |  | Chapter 4 Test |  |
|  |  | Math History and Application – Chapter 4 |  |
|  | 5.1 | Chapter 5: Introduction to Decimals | 341-353 |
|  | 5.2 | Adding and Subtracting Decimals | 359-366 |
|  | 5.3 | Multiplying Decimals | 370-381 |
|  | 5.4 | Dividing Decimals | 386-395 |
|  | 5.5 | Fractions and Decimals | 401-408 |
|  | 5.6 | Equations with Decimals | 411-421 |
|  | 5.7 | Introduction to Square Roots | 425-433 |
|  | 5.8 | The Pythagorean Theorem | 437-443 |
|  |  | Chapter 5 Review |  |
|  |  | Chapter 5 Test |  |
|  |  | Math History and Application – Chapter 5 |  |
|  | 6.1 | Chapter 6: Introduction to Ratios and Rates | 447-454 |
|  | 6.2 | Introduction to Proportion | 456-463 |
|  | 6.3 | Unit Conversion: American System | 467-475 |
|  | 6.4 | Unit Conversion: Metric System | 479-486 |
|  | 6.5 | American Units to Metric Units and Vice-Versa | 490-495 |
|  |  | Chapter 6 Review |  |
|  |  | Chapter 6 Test |  |
|  |  | Math History and Application – Chapter 6 |  |
|  |  | Math History and Application – Chapter 7 |  |
|  | 7.1 | Chapter 7: Percent, Decimals, Fractions | 501-508 |
|  | 7.2 | Solving Basic Percent Problems | 512-518 |
|  | 7.3 | General Applications of Percent | 521-525 |
|  | 7.4 | Percent Increase or Decrease | 529-538 |
|  | 7.5 | Interest | 542-548 |
|  | 7.6 | Pie Charts | 552-560 |
|  |  | Chapter 7 Review |  |
|  |  | Chapter 7 Test |  |
|  |  | Math History and Application – Chapter 8 |  |
|  | 8.1 | Chapter 8: The Cartesian Coordinate System | 569-576 |
|  | 8.2 | Graphing Linear Equations | 581-589 |
|  |  | Chapter 8 Review |  |
|  |  | Chapter 8 Test |  |
|  |  | Final Review |  |
|  |  | Final Test |  |

Criteria for Grades (Suggestion)

Grades will be based on the following:

|  |  |  |
| --- | --- | --- |
| Criteria | Percentage | Why are we doing this? |
| Tests | 30% | This will teach students how to take tests. |
| Papers on the history and the applications of Mathematics | 20% | This will encourage students to read more about math history so they can write good papers. |
| Class work, Note taking, Homework and Participation | 40% | Teach students to take good notes. |
| Assignments and teaching others   * Projects and Presentations * Pre-test and Study skills | 10% | Few extra practice problems to help students master the concepts they are learning.  Teach students how to present in front of a group.  Help students learn solid study skills as well as the skills they will need to have in order to do well on a test. |

Grading

|  |  |  |
| --- | --- | --- |
| 90-93: A- | 94-100: A |  |
| 80-82: B- | 83-86: B | 87-89: B+ |
| 70-72: C- | 73-76: C | 77-79: C+ |
| 60-62: D- | 63-66: D | 67-69: D+ |
|  | 59 and below: F |  |