Course Title: GRADE SEVEN MATHEMATICS-A	**Course Description**
Course No. N/A **Grade level**: 7 **Text and Resources**: *A. *Mathematics Concepts and Skills, Course II,* McDougal Littell B. *Pre-Algebra*, AGS C. *Algebra ½* ; Saxon Publishers D. *Saxon Math 87*; Saxon Publishers E. *Pacemaker Pre-algebra*; Globe Fearon * Primary Adoption	**Course Value**: *One Semester **Credit Value**: One Course
Course Content: Key Content Standards and Course Objectives The following course objectives are based on the Grade 7 Mathematical standards and many of the CAHSEE mathematical strands: 1. **Number Sense:** Students know the properties of, and compute with, rational numbers expressed in a variety of forms (7-1.0) students use exponents, powers, and roots and use exponents in working with fractions. (7-2.). 2. **Algebra and Functions:** Students express quantitative relationships by using algebraic terminology, expressions, equations, inequalities, and graphs (7-1.0), students interpret and evaluate expressions involving integer powers and simple roots (7-2.), students graph and interpret linear and some nonlinear functions (7-3.), students solve simple linear equations and inequalities over the rational numbers (7-4.0). 3. **Measurement and Geometry**: Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area and volume are affected by changes of scales (7-2.), students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems (7-1), students know the Pythagorean theorem and deepen their understanding of plane and solid geometric shapes by constructing figures that meet given conditions and by identifying attributes of figures (7-3.) 4. **Statistics, Data Analysis, and Probability:** Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program (7-1) 5. **Mathematical Reasoning:** Students make decisions about how to approach problems (7-1.), students use strategies, skills, and concepts in finding solutions (7-2.), students determine a solution is complete and move beyond a particular problem by generalizing to other situations (7-3.).	This Pre-Algebra course will help students develop the skills necessary to manipulate numbers, solve equations and understand the general principles at work. Students will compute interest through percentages, graph linear function, compare rational numbers with scientific notation, and convert fractional numbers between fractions, decimals, and percents. Practical application through the incorporation of word problems is required in this course. This course includes many of the mathematical concepts that are found in the California High School Exit Exam. *Open entry/open exit
Methods of Study	**Evaluation of Performance Standards**
1. Students will complete all activities assigned. 2. Students will participate in discussion with other class members and/or teacher.	1. Students will complete all assignments and assessments with a minimum of 70% accuracy. 2. The supervising teacher will be satisfied with the quality of the student's work.

GRADE SEVEN MATHEMATICS A

Course Outline

I. Textbook Assignment Options:

A. *Mathematics Concepts and Skills, Course II*, Chapters 1-6. **(1 Course)**

- Complete all even-numbered exercises.
- Complete Mid-Chapter Tests; even-numbered problems.
- Complete Chapter Tests 1-6; even-numbered problems.
- Chapter Summaries and Reviews: teacher discretion.
- Complete one of the following:
    1. Developing Concepts 1.8
    2. Developing Concepts 2.5
    3. Developing Concepts 2.6
    4. Chapters 1-3 Project
    5. Chapters 4-6 Project

B. *AGS Pre-Algebra;* Chapters 1-6 **(1 Course)**

- Complete "Chapter Exercises" even-numbered problems.
- Complete "Chapter Review" even-numbered problems.
- Complete one Extension Activity.

C. *Saxon Algebra ½, Lessons 1-71* **(1 Course)**

- Complete all even-numbered problems.
- Complete one Extension Activity

D. *Saxon Math 87, Lessons 1-60 (1 Course)*

- Complete all even-numbered problems.
- Complete one Extension Activity

E. *Pacemaker Pre-Algebra, Chapters 1-6 (1 Course)*

- Complete "Lesson Exercises" and "Chapter Reviews:" even problems only. (omit applications unless assigned as Extension Activities)
- Complete one Extension Activity.
- *Student Workbook* activities, as assigned by the teacher.

II. Extension Activity Options:

A. This assignment will include making a pie graph using Microsoft Excel that will illustrate what percent of the total U.S. car production each of the above companies represents. This assignment may require teacher assistance. Directions are as follows:

1. Listed below is an imaginary list of U.S. car production for 2002.

Auto Alliance	149,562
Chrysler Corp.	576,864
General Motors Corp.	2,515,136
Honda Motors	552,995
Ford Motor Co.	4,500,200
Nissan	333,234
Saturn	450,565

2. Open Excel. In cell A1, type in the name of the first car company, adjusting the
3. column width so that the entire name fits. In cell A2, type in the name of the second car company, etc.
4. In cell B1, type in the number of cars produced by the first company. In cell B2 type the number of cars produced by the second company, etc.
5. Use the mouse to highlight Columns A and B.
6. On the toolbar, click on "chart wizard" to begin creating a graph.
7. Select "pie" as the type of graph to create. Click on the "titles" tab in the chart title window, and type: 2002 U.S. Car Production. Click on the "data labels" tab and select: show percent.
8. Click on the "next" button once. Select: "As An Object In: Sheet 1." Click on "finish."
9. Print a copy of your graph.
10. Convert each company's percent of production to a fraction.

B. Using the Internet, go to the www.foodtv.com website. The objective of this assignment is to find your favorite cookie recipe and then use Microsoft Excel to expand that recipe to make batches for larger groups. This assignment may require teacher support. Directions are as follows:

1. Once at the www.foodtv.com website, find the search window and type in the name of your favorite type of cookie, such as chocolate chip, oatmeal, or sugar. Conduct a search for a recipe and make a selection from the search results. Print or copy your recipe.
2. Open Microsoft Excel. In column A, type the quantity of each ingredient from your recipe into each cell. In column B, type the name of each ingredient. If, for example, your recipe called for 1 cup of flour, you would type the 1 in cell A1 and the word "flour" in cell B1. (Adjust the cell width using the mouse as needed so that the entire quantity and name of each ingredient appears).
3. Go to cell C1, type in the following formula: =A1*2 and hit Enter. Go to cell D1, type in the following formula: =A1*4 and hit Enter. These formulas are telling the program that the information that will go into C1 and D1 will be 2 times and 4 times the information in Column A cells, respectively.
4. Click on Cell C1 once. Using the mouse, place the cursor over the lower right-hand corner of cell C1 until you see a plus sign. Click and drag the plus sign down Column C until you reach the bottom cell of your recipe. Repeat for Column D. You will then have recipes that would double and quadruple the original quantity.
5. Now you will copy and paste your recipes to Microsoft WORD. Highlight all cells used in Excel, beginning with A1. Right click on your mouse and select "copy." Open WORD to a blank document, right click and select paste. You can now label your recipe and print out a copy.

C. Use travelocity.com, cheaptickets.com, or mapquest.com as your Internet search engine to plan a driving trip to several cities in the U.S. Begin and end your trip in Bakersfield, using the following information:

1. The trip should be between 5-7 days, with no more than 1 day spent at any destination.
2. Your driving speed should be 65 miles per hour.
3. You will need to travel between 250 and 500 miles per day.
4. Record the following:
    a. The distance, the travel time, and destination each day.
    b. The total cost of gasoline for the trip, if the price per gallon is $1.60.
    c. Total miles traveled, and the percent of total miles traveled each day.

D. Using graph paper, make a scale drawing of your classroom or house. Show the location of the furniture.

E. Teacher generated activity, approved by the site administrator.

III. Evaluation

- Unit and/or final test.
- All textbook work must meet the 70% accuracy level for a "C" grade.