

<p align="center">Course Title: GRADE SEVEN MATHEMATICS-B</p>	<p align="center">Course Description</p>
<p>Course No. N/A Grade level: 7</p> <p>Text and Resources: *A. <i>Mathematics Concepts and Skills, Course II</i>, McDougal Littell B. <i>Pre-Algebra</i>, AGS C. <i>Algebra ½</i>; Saxon Publishers D. <i>Saxon Math 87</i>; Saxon Publishers E. <i>Pacemaker Pre-algebra</i>; Globe Fearon</p> <p>* Primary Adoption</p>	<p>Course Value: *One Semester</p> <p>Credit Value: One Course</p>
<p align="center">Course Content: Key Content Standards and Course Objectives</p> <p>The following course objectives are based on the Grade 7 Mathematical standards and many of the CAHSEE mathematical strands:</p> <ol style="list-style-type: none"> 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.). 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). 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.) 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) 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.). 	<p>This course is a continuum of the mathematical standards taught in Pre-Algebra A. It will cover statistics, graphs, probability, linear geometry, including angles and proportions, the Pythagorean Theorem, problems computing surface areas and 3-D objects, and varying units of measurement. Instruction will include basic operations with monomials. Practical application through the incorporation of word problems is required in this course. This course provides many of the mathematical foundational skills and concepts required for students to pass the mathematical portion of the California High School Exit Examination.</p> <p>*Open entry/open exit</p>
<p align="center">Methods of Study</p> <ol style="list-style-type: none"> Students will complete all activities assigned. Students will participate in discussion with other class members and/or teacher. 	<p align="center">Evaluation of Performance Standards</p> <ol style="list-style-type: none"> Students will complete all assignments and assessments with a minimum of 70% accuracy. The supervising teacher will be satisfied with the quality of the student's work.

GRADE SEVEN MATHEMATICS B

Course Outline

I. Textbook Assignment Options:

A. *Mathematics Concepts and Skills, Course II*, Chapters 7-12. (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. Chapters 7-9 Project
 2. Chapters 10-12 Project

B. *AGS Pre-Algebra; Chapters 7-12* (1 Course)

- Complete Chapter Exercises, even-numbered problems.
- Complete “Chapter Review” even-numbered problems.
- Complete one Extension Activity

C. *Saxon Algebra ½, Lessons 72-137* (1 Course)

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

D. *Saxon Math 87, Lessons 61-120* (1 Course)

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

E. *Pacemaker Pre-Algebra, Chapters 7-13* (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.

III. Extension Activity Options

A. Measure the radius and height of three of the following, rounding to the nearest cm: basketball, baseball/softball, volleyball, tennis ball, or soccer ball. Create a table in Microsoft WORD that will display your findings.

1. To create a table in WORD, click on the word “table” on the menu bar at the top of the screen, select “insert,” and then “table.”
2. When the table “wizard” appears, indicate that you want 4 columns and 3 rows (1 for each ball used).
3. Complete the table by filling in the information from your measurements and calculations.
4. Place the column headings as shown in the table below:

Type of Ball	Radius	Height	Volume

- B. Using the Bakersfield Californian Newspaper or the Internet at Bakersfield.com, list at least 15 movie titles, grouping them in categories of PG, PG-13, and R, and recording the running time (expressed in minutes) of each. Using Excel, you will now create a line graph depicting the running times for all movies in each of the three categories.

The purpose of this is to determine if there is a relationship between a movie's rating and its length. Teacher assistance may be required. The following directions may provide some assistance for creating your graph:

1. Open Excel. In cell A1, type PG, in B1 type PG-13, and in C1 type R.
2. In cell A2, type in the running time of the first PG movie, in A3, the second PG movie, etc.
3. In cell B2, type in the running time of the first PG-13 movie, in B3, the second, etc. Do the same for the R-rated movies beginning in Column C2.
4. Highlight all of the data. On the toolbar, click on "chart wizard" to begin creating a graph.
5. Select "Line" as the type of graph to create. Click on the "next" button twice. Click on the "titles" tab in the chart title window, and type: *Movie Running Times*. Label the Value (Y axis) "Minutes."
6. Click on the "next" button once. Select: As An Object In: Sheet 1. Click on "finish."
7. Print a copy of your graph.
8. Study the results as shown in the graph. Determine if there is a relationship between the movie ratings and the running times. Write your conclusion, supporting it with facts from your research, onto the copy of your line graph.

- C. Record the numbers on your electric meter at home at the same time each day for 5 days. Find and record the difference between each day's readings to determine how many kilowatts were used each day. Using Microsoft Excel, create a line graph showing each day's usage. Teacher assistance may be required. The following directions may provide some assistance for creating your graph:

1. Open Microsoft Excel. In cells A1-E1 type in the days of the week for which the meter readings were done. You may need to adjust the cell width to accommodate the names. If so, use the mouse to click and drag the lines to the right.
2. In cells A2-E2, enter the kilowatt usage for each day.
3. Highlight cells A1-E2. Click "insert" and then "chart."
4. Find and click on "Line" for the type of chart you will make, and click "next" two times.
5. For the chart title type: "Meter Readings," for the X axis, type "Days" and for the Y axis, type "Kilowatts," and then click "next."
6. Click "finish" and print out your line graph.

- D. 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.