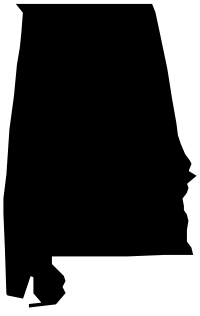
Alabama Guide to Daily Intervention

GLENCOE MATHEMATICS

Mathematics

Applications and Concepts

Courses 1, 2, and 3



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Alabama Mathematics: Applications and Concepts
Guide to Daily Intervention

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Contents

Teacher's Guide to Using the Guide to Daily Intervention

Today it is vital that students understand the mathematics that they are learning. Using computers on the job, making good consumer choices, evaluating information, and other life skills depend upon good mathematics skills. Since no two students are exactly the same, in every classroom there will be students of various abilities and skill levels. This booklet focuses on ways that teachers can intervene to assist the struggling student to improve his or her performance. Helping all students succeed in mathematics and develop their mathematical reasoning skills is an ambitious and worthwhile goal.

In order to ensure students' success, teachers can follow a three-step process of daily intervention.

1. **Assessment of individual student needs** Teachers need to evaluate the needs of students in order to meet those needs.

2. **Ongoing evaluation of student progress** Monitoring students' progress and understanding on a daily basis allows a teacher to head off trouble.

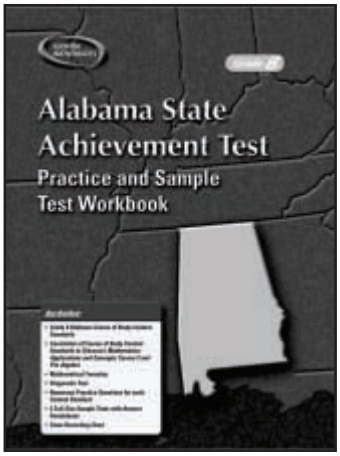
3. **Monitoring instructional activities to strengthen students' weaknesses** Providing opportunities for students to immediately address any weaknesses ensures students' continued success.

The *Glencoe Mathematics: Applications and Concepts* programs include tools for daily intervention in the Student Edition, the Teacher Wraparound Edition, the Teacher Classroom Resources, the Internet, and other products. Using these tools can help you help your students realize mathematical success. The following pages detail each resource available and the correlations show how they are used in each lesson of *Glencoe Mathematics: Applications and Concepts*.

Daily Intervention for Alabama Students and Teachers

This booklet contains correlations to materials available from Glencoe/McGraw-Hill that can assist you in preparing your students for success on the Alabama State Achievement Test, Grade 8. In addition, the Alabama Course of Study standards for grades 6 through 8 are included for your convenience.

The following overview details each correlated component and how it can help meet your assessment needs.



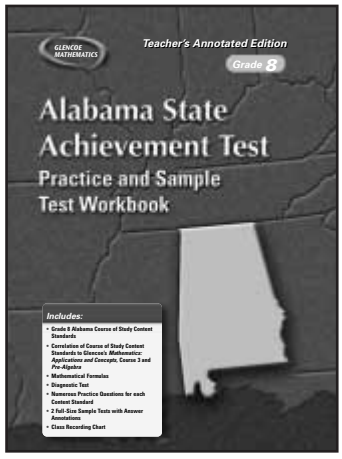
Alabama State Achievement Test Practice and Sample Test Workbook, Student Edition

Alabama State Achievement Test Practice and Sample Test Workbook, Grade 8, Student Edition

This workbook includes a diagnostic test and practice for each Course of Study standard tested on the State Achievement Test, Grades 8, including multiple choice, gridded response, short response, and extended response. In addition, a sample test is provided in the workbook. Each item in the diagnostic and sample tests is also referenced by standard so students can track their proficiency using the student recording chart. This chart allows students to pinpoint standards where they need additional practice. A list of the Alabama Course of Study for Grade 8 is also included. Note that all **SAT 10 Objectives** are addressed by the Alabama Course of Study Standards that are covered in this booklet.

Alabama State Achievement Test Practice and Sample Test Workbook, Grade 8, Teacher's Annotated Edition

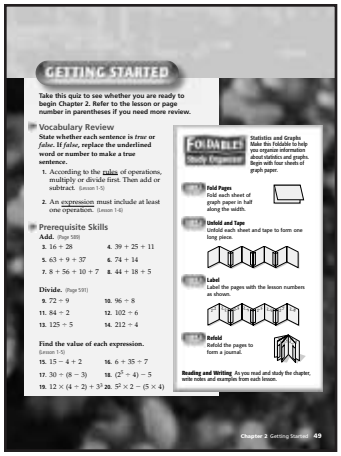
In the Teacher's Annotated Edition of the *Alabama State Achievement Test Practice and Sample Test Workbook,* answers are printed full-size, in place on the student pages of the diagnostic test, practice, and sample test pages. A correlation of the Alabama Course of Study, Grade 8, to *Glencoe Mathematics: Applications and Concepts,* Course 3, is also included. A class recording chart allows you to record diagnostic test scores to quickly see on which standards your students need additional practice. Note that all **SAT 10 Objectives** are addressed by the Alabama Course of Study Standards that are covered in this booklet.



Alabama State Achievement Test Practice and Sample Test Workbook, Teacher's Annotated Edition

Daily Intervention in the Student Edition

- In the Getting Started section at the beginning of each chapter in the Student Edition, the **Prerequisite Skills** check students' preparedness for the chapter. You can check prior knowledge by reviewing prerequisite topics and explaining how these prerequisite topics are related to the current concept.
- Additional practice of **Prerequisite Skills** is provided at the end of each lesson with page references to help students review the concepts. These exercises review concepts and skills that will be applied in the next lesson. The Prerequisite Skills section in the Student Handbook in the back of the Student Edition provides explanation and practice of skills that are needed for success in the course.


GETTING STARTED

Take this quiz to see whether you are ready to begin Chapter 2. Refer to the lesson or page number in parentheses if you need more review.

Vocabulary Review

State whether each sentence is *true* or *false*. If *false*, replace the underlined word or number to make a true sentence.

1. According to the rules of operations, multiply or divide first. Then add or subtract. (Lesson 1-5)
2. An expression must include at least one operation. (Lesson 1-4)

Prerequisite Skills

Add. (Page 598)

3. 16 + 28
4. 39 + 25 + 11
5. 63 + 9 + 37
6. 74 + 14
7. 8 + 56 + 10 + 7
8. 44 + 18 + 5

Divide. (Page 597)

9. 72 ÷ 9
10. 96 ÷ 8
11. 84 ÷ 2
12. 102 ÷ 6
13. 125 ÷ 5
14. 212 ÷ 4

Find the value of each expression. (Lesson 1-3)

15. 15 − 4 + 2
16. 6 + 35 ÷ 7
17. 30 ÷ (8 − 3)
18. $(2^5 \div 4) - 5$
19. $12 \times (4 \div 2) + 3^2$
20. $5^2 \times 2 - (5 \times 4)$

FOLDABLES Study Organizer

Statistics and Graphs Make this Foldable to help you organize information about statistics and graphs. Begin with four sheets of graph paper.

Step 1 **Fold Pages** Fold each sheet of graph paper in half along the width.

Step 2 **Unfold and Tape** Unfold each sheet and tape to form one long piece.

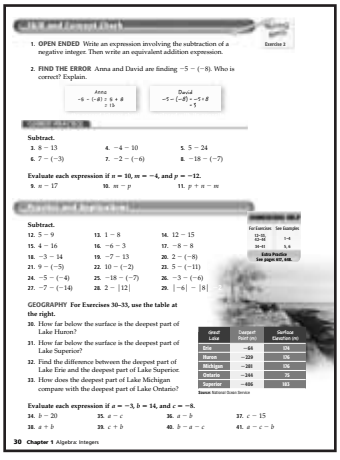
Step 3 **Label** Label the pages with the lesson numbers as shown.

Step 4 **Refold** Refold the pages to form a journal.

Reading and Writing As you read and study the chapter, write notes and examples from each lesson.

Chapter 2 Getting Started 49

Course 1, Student Edition, p. 49


Skill and Concept Check

1. **OPEN ENDED** Write an expression involving the subtraction of a negative integer. Then write an equivalent addition expression.
2. **FIND THE ERROR** Anna and David are finding $-5 - (-8)$. Who is correct? Explain.

Anna: $-5 - (-8) \stackrel{?}{=} 5 + 8$, $13 \neq 13$

David: $-5 - (-8) \stackrel{?}{=} -5 + 8$, $3 = 3$

Subtract.

3. 8 − 13
4. −4 − 10
5. 5 − 24
6. 7 − (−3)
7. −2 − (−6)
8. −18 − (−7)

Evaluate each expression if $n = 10$, $m = -4$, and $p = -12$.

9. $n - 17$
10. $m - p$
11. $p + n - m$

Practice and Apply

Subtract.

12. 5 − 9
13. 1 − 8
14. 12 − 15
15. 4 − 16
16. −6 − 3
17. −8 − 8
18. −3 − 14
19. −7 − 13
20. 2 − (−8)
21. 9 − (−5)
22. 10 − (−2)
23. 5 − (−11)
24. −5 − (−4)
25. −18 − (−7)
26. −3 − (−6)
27. −7 − (−14)
28. 2 − |12|
29. |−6| − |8|

For Exercises 12–33 / See Examples 1–4 / Extra Practice See pages 597, 598.

GEOGRAPHY **For Exercises 30–33, use the table at the right.**

30. How far below the surface is the deepest part of Lake Huron?
31. How far below the surface is the deepest part of Lake Superior?
32. Find the difference between the deepest part of Lake Erie and the deepest part of Lake Superior.
33. How does the deepest part of Lake Michigan compare with the deepest part of Lake Ontario?

Great Lake	Deepest Point (m)	Surface Elevation (m)
Erie	−64	174
Huron	−229	176
Michigan	−281	176
Ontario	−244	75
Superior	−406	183

Source: National Ocean Service

Evaluate each expression if $a = -3$, $b = 14$, and $c = -8$.

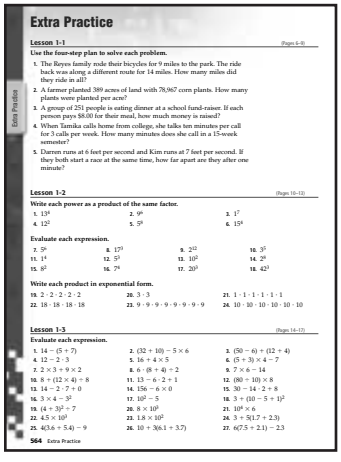
34. $b - 20$
35. $a - c$
36. $a - b$
37. $c - 15$
38. $a + b$
39. $c + b$
40. $b - a - c$
41. $a - c - b$

30 Chapter 1 Algebra: Integers

Course 3, Student Edition, p. 30

- You can use the **Skill and Concept Check** exercises in class to ensure that all students understand the concepts. Students communicate their understanding of the concepts just taught by defining, describing, and explaining mathematical concepts. **Find the Error** exercises help students identify and address common errors before they occur.
- **Guided Practice** These exercises present a representative sample of the exercises in the Practice and Apply section. A key is provided in the Teacher Wraparound Edition that correlates the exercises to the corresponding examples.
- **Application** Students have the opportunity to solve a real-world or mathematical connection problem as a check for understanding.

- **Extra Practice**, located in the back of the Student Edition, provides additional, immediate practice with the skills and concepts from each lesson.
- **Mixed Problem Solving**, also in the back of the Student Edition, includes numerous verbal problems for students to reinforce their problem-solving skills.


Extra Practice

Lesson 1-1 (Pages 6–9)

Use the four-step plan to solve each problem.

1. The Reyes family rode their bicycles for 9 miles to the park. The ride back was along a different route for 14 miles. How many miles did they ride in all?
2. A farmer planted 389 acres of land with 78,867 corn plants. How many plants were planted per acre?
3. A group of 251 people is eating dinner at a school fund-raiser. If each person pays $8.00 for their meal, how much money is raised?
4. When Tamika calls home from college, she talks ten minutes per call for 3 calls per week. How many minutes does she call in a 15-week semester?
5. Darren runs at 6 feet per second and Kim runs at 7 feet per second. If they both start a race at the same time, how far apart are they after one minute?

Lesson 1-2 (Pages 10–13)

Write each power as a product of the same factor.

1. 13^4
2. 9^6
3. 1^7
4. 12^2
5. 5^9
6. 15^3

Evaluate each expression.

7. 5^6
8. 17^3
9. 2^{12}
10. 3^5
11. 1^4
12. 5^3
13. 10^2
14. 2^8
15. 8^2
16. 7^4
17. 20^3
18. 42^1

Write each product in exponential form.

19. 2 · 2 · 2 · 2 · 2
20. 3 · 3
21. 1 · 1 · 1 · 1 · 1 · 1 · 1
22. 18 · 18 · 18 · 18
23. 9 · 9 · 9 · 9 · 9 · 9 · 9 · 9 · 9
24. 10 · 10 · 10 · 10 · 10 · 10 · 10 · 10

Lesson 1-3 (Pages 14–17)

Evaluate each expression.

1. 14 − (5 + 7)
2. (32 + 10) − 5 × 6
3. (50 − 6) + (12 + 4)
4. 12 − 2 · 3
5. 16 + 4 × 5
6. (5 + 3) × 4 − 7
7. 2 × 3 + 9 × 2
8. 6 · (8 + 4) ÷ 2
9. 7 × 6 − 14
10. 8 + (12 × 4) ÷ 8
11. 13 − 6 · 2 ÷ 1
12. (80 − 10) × 8
13. 14 − 2 · 7 + 0
14. 156 − 6 × 0
15. 30 − 14 · 2 ÷ 8
16. 3 × 4 − 3^2
17. $10^2 - 5$
18. 3 + (10 − 5 ÷ 1^2
19. (4 + 3^2) ÷ 7
20. 8 × 10^3
21. $10^3 \times 6$
22. 4.5 × 10^3
23. 1.8 × 10^2
24. 3 + 5(1.7 + 2.3)
25. 4(3.6 + 5.4) − 9
26. 10 + 3(6.1 + 3.7)
27. 6(7.5 + 2.1) − 2.3

564 Extra Practice

Course 2, Student Edition, p. 564

Daily Intervention in the Teacher Wraparound Edition

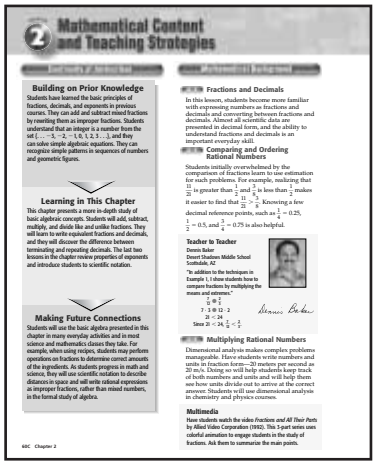
- **Daily Intervention** features provide suggestions for addressing various learning styles and helping students who are having difficulty.
  - The **Differentiated Instruction** suggestions are keyed to eight commonly accepted learning styles.
  - **Unlocking Misconceptions** suggestions help you analyze where students make common errors so you can point these trouble spots out to them.

Course 2, Teacher Wraparound Edition, p. 39

Course 1, Teacher Wraparound Edition, p. 69

- Each lesson ends with **Open-Ended Assessment** or **Higher-Level Thinking** strategies for closing the lesson and ensuring that students understand and can apply the concepts. These strategies for bringing closure to the lesson are addressed through writing, modeling, and speaking.

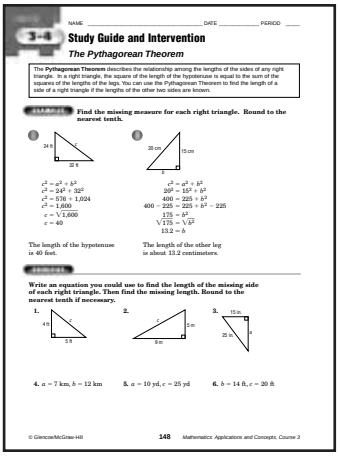
- **Teacher to Teacher** features contain teaching suggestions from teachers who are successfully teaching mathematics in their classrooms. Suggestions include content tips, techniques, and activities that can be used in intervention.



Course 3, Teacher Wraparound Edition, p. 60C

Daily Intervention in the Teacher Classroom Resources

- The **Study Guide and Intervention** masters found in the Chapter Resource Masters summarize key concepts for each objective and provide practice exercises. These masters are also available as a consumable **Study Guide and Intervention Workbook** in English and Spanish. You may wish to use these masters for additional instruction and practice with individual students, in cooperative groups, or in peer tutoring situations.



3-4 Study Guide and Intervention

The Pythagorean Theorem

The **Pythagorean Theorem** describes the relationship among the lengths of the sides of any right triangle. In a right triangle, the square of the length of the hypotenuse is equal to the sum of the squares of the lengths of the legs. You can use the Pythagorean Theorem to find the length of a side of a right triangle if the lengths of the other two sides are known.

Example 1 Find the missing measure for each right triangle. Round to the nearest tenth.

a. $c^2 = a^2 + b^2$; $c^2 = 24^2 + 32^2$; $c^2 = 576 + 1{,}024$; $c^2 = 1{,}600$; $c = \sqrt{1{,}600}$; $c = 40$. The length of the hypotenuse is 40 feet.

b. $c^2 = a^2 + b^2$; $20^2 = 15^2 + b^2$; $400 = 225 + b^2$; $400 - 225 = 225 + b^2 - 225$; $175 = b^2$; $\sqrt{175} = \sqrt{b^2}$; $13.2 = b$. The length of the other leg is about 13.2 centimeters.

Example 2 Write an equation you could use to find the length of the missing side of each right triangle. Then find the missing length. Round to the nearest tenth if necessary.

4. $a = 7$ km, $b = 12$ km
5. $a = 10$ yd, $c = 25$ yd
6. $b = 14$ ft, $c = 20$ ft

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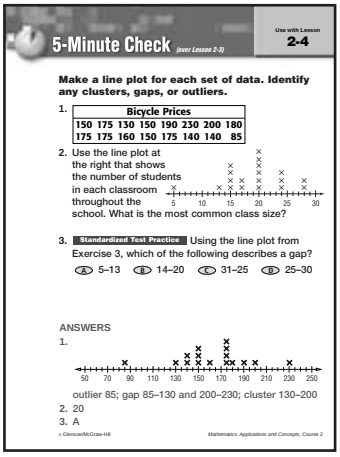
Course 3, Chapter 3 Resource Masters, p. 148



5-Minute Check (over Lesson 2-3) Use with Lesson 2-4

Make a line plot for each set of data. Identify any clusters, gaps, or outliers.

1. Bicycle Prices: 150 175 130 150 190 230 200 180 175 175 160 150 175 140 140 85

2. Use the line plot at the right that shows the number of students in each classroom throughout the school. What is the most common class size?

3. Standardized Test Practice Using the line plot from Exercise 3, which of the following describes a gap?
A 5–13 B 14–20 C 31–25 D 25–30

ANSWERS

1. outlier 85; gap 85–130 and 200–230; cluster 130–200
2. 20
3. A

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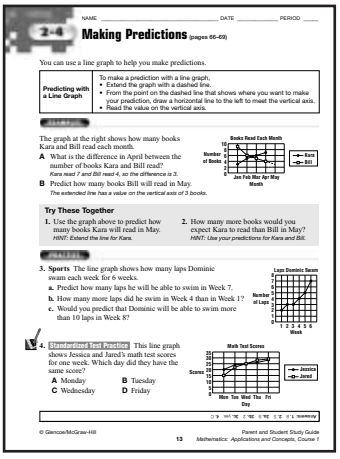
Course 2, 5-Minute Check Transparency 2-4

- **5-Minute Check Transparencies with Standardized Test Practice** For each lesson, there is a full-size transparency with questions covering the previous lesson or chapter. Also included on each transparency is a Standardized Test Practice question. These provide an excellent ongoing opportunity for checking students' understanding of the mathematics they are learning.

- Parents or guardians may need specific advice for helping students make improvements. It may help to engage in frequent correspondence, encourage parental monitoring of homework, and provide parents with a schedule of students' assignments. The **Parent and Student Study Guide Workbook** contains a one-page worksheet for each lesson in the Student Edition and a one-page review for each chapter. This workbook offers an excellent opportunity for students and parents to work together to strengthen weaknesses and develop mathematical understanding.



2-4 Making Predictions (pages 66–69)

You can use a line graph to help you make predictions.

Predicting with a Line Graph
To make a prediction with a line graph,
- Extend the graph with a dashed line.
- From the point on the dashed line that shows where you want to make your prediction, draw a horizontal line to the left to meet the vertical axis.
- Read the value on the vertical axis.

Example 1 The graph at the right shows how many books Kara and Bill read each month.
A What is the difference in April between the number of books Kara and Bill read? *Kara read 7 and Bill read 4, so the difference is 3.*
B Predict how many books Bill will read in May. *The extended line has a value on the vertical axis of 3 books.*

Books Read Each Month (Kara, Bill; Number of Books; Jan Feb Mar Apr May; Month)

Try These Together
1. Use the graph above to predict how many books Kara will read in May. *HINT: Extend the line for Kara.*
2. How many more books would you expect Kara to read than Bill in May? *HINT: Use your predictions for Kara and Bill.*

3. **Sports** The line graph shows how many laps Dominic swam each week for 6 weeks.
a. Predict how many laps he will be able to swim in Week 7.
b. How many more laps did he swim in Week 4 than in Week 1?
c. Would you predict that Dominic will be able to swim more than 10 laps in Week 8?

Laps Dominic Swam (Number of Laps; Week)

4. Standardized Test Practice This line graph shows Jessica and Jared's math test scores for one week. Which day did they have the same score?
A Monday B Tuesday C Wednesday D Friday

Math Test Scores (Scores; Mon Tue Wed Thu Fri; Day; Jessica, Jared)

Answers: 1. 3 2. 7 3a. 2 3b. 2 3c. yes 4. C

© Glencoe/McGraw-Hill Parent and Student Study Guide 13 *Mathematics: Applications and Concepts, Course 1*

Course 1, Parent and Student Study Guide Workbook, p. 13

Daily Intervention on the Internet

- **Online Study Tools** These comprehensive review and intervention tools are available anytime, anyplace, simply by logging on to:

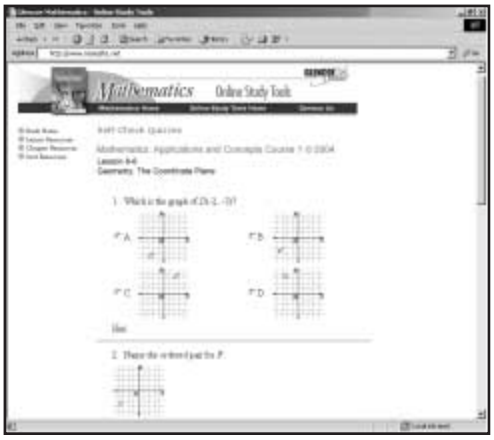
  msmath1.net **msmath2.net** **msmath3.net**

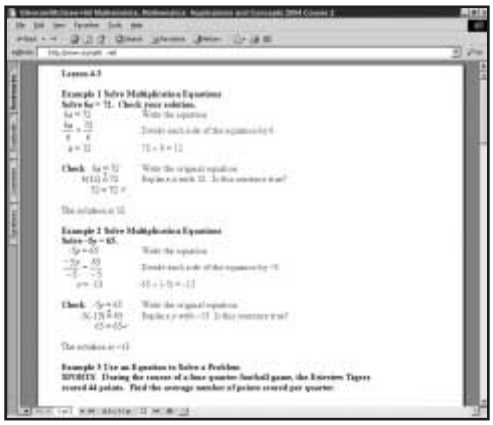
- **Self-Check Quizzes** are available for every lesson. Immediate feedback lets the student know whether the answers are correct and references specific pages and examples in the Student Edition for review. Access the Self-Check Quizzes directly at:

  msmath1.net/self_check_quiz

  msmath2.net/self_check_quiz

  msmath3.net/self_check_quiz





- **Extra Examples** that mimic the ones in the Student Edition are completely worked out and available for students to review at:

  msmath1.net/extra_examples

  msmath2.net/extra_examples

  msmath3.net/extra_examples

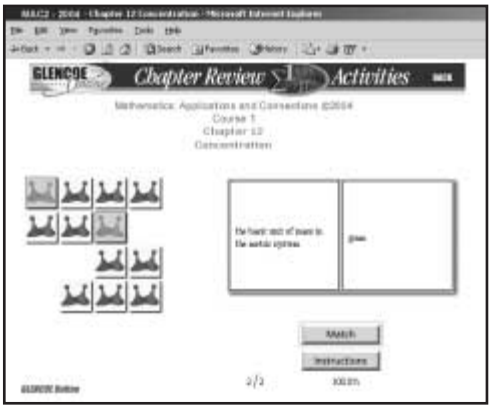
  You may wish to use these examples in reteaching or to have students review areas of weakness.

- **Vocabulary Review** lets you and your students check their understanding of the terms and definitions used in each chapter. Access this game-style review at:

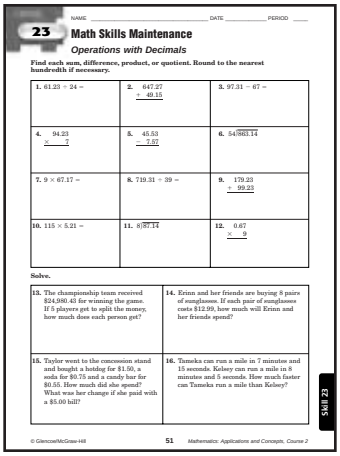
  msmath1.net/vocabulary_review

  msmath2.net/vocabulary_review

  msmath3.net/vocabulary_review



Daily Intervention with Other Resources



NAME _____ DATE _____ PERIOD ____

23 **Math Skills Maintenance**

Operations with Decimals

Find each sum, difference, product, or quotient. Round to the nearest hundredth if necessary.

1. $61.23 \div 24 =$	**2.** $\begin{array}{r} 647.27 \\ +\ 49.15 \\ \hline \end{array}$	**3.** $97.31 - 67 =$
4. $\begin{array}{r} 94.23 \\ \times\ \ 7 \\ \hline \end{array}$	**5.** $\begin{array}{r} 45.53 \\ -\ 7.97 \\ \hline \end{array}$	**6.** $54\overline{)881.14}$
7. $9 \times 67.17 =$	**8.** $719.31 \div 39 =$	**9.** $\begin{array}{r} 179.23 \\ +\ 99.23 \\ \hline \end{array}$
10. $115 \times 5.21 =$	**11.** $8\overline{)97.14}$	**12.** $\begin{array}{r} 0.67 \\ \times\ \ 9 \\ \hline \end{array}$

Solve.

13. The championship team received $24,980.45 for winning the game. If 5 players get to split the money, how much does each person get?

14. Erinn and her friends are buying 8 pairs of sunglasses. If each pair of sunglasses costs $12.99, how much will Erinn and her friends spend?

15. Taylor went to the concession stand and bought a hotdog for $1.50, a soda for $0.75 and a candy bar for $0.55. How much did she spend? What was her change if she paid with a $5.00 bill?

16. Tameka can run a mile in 7 minutes and 15 seconds. Kelsey can run a mile in 8 minutes and 5 seconds. How much faster can Tameka run a mile than Kelsey?

SKILL 23

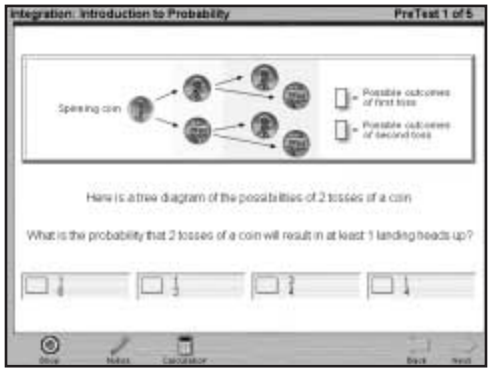
© Glencoe/McGraw-Hill **51** *Mathematics: Applications and Concepts, Course 2*

Course 2, Math Skills Maintenance, p. 51

The **Alabama Math Skills Maintenance Masters** for grades 6 and 7 provide extra practice on basic skills that are needed for success in the course. You may use these pages to give students an opportunity to review and refresh their skills. Topics addressed include:

- Operations with Whole Numbers
- Operations with Decimals
- Operations with Fractions
- Operations with Integers
- Estimation
- Properties
- Measures in the Metric and Customary Systems
- Graphing

- The **MathPASS Tutorial** CD-ROM provides an interactive, self-paced tutorial for a mathematics curriculum. The lessons are correlated directly to *Glencoe Mathematics: Applications and Concepts.* Each lesson, or concept, includes a pretest, tutorial, guided practice, and posttest. Students' answers to the pretests automatically determine whether the tutorial is needed for that concept—without taking teacher time to grade it. This software is designed to identify and address student weaknesses.



- **Quick Review Math Handbook** is Glencoe's mathematical handbook for students. The Hot Words section includes a glossary of terms while the Hot Topics section consists of explanations of key mathematical concepts. An exercise set is included to check students' understanding of the concepts. This valuable resource can be used as a reference in the classroom or for home study.

Student Remediation Plan

Teacher Instructions

You can use the Student Remediation Plan template that follows to plan for students who are in need of intervention/remediation. It can be used for high stakes tests, if there is no formal remediation plan required by your school or district. It can also be used for mid-semester reviews or project-based work.

Purpose

- To identify students' specific problem areas and link them to steps that can produce attainable results.
- To provide a template to easily record remediation plans and use them to communicate with students and/or parents.

Suggested Uses

- *Involve students in their Remediation Plans.*
  Hold a teacher-student conference to go over the details of the remediation plan. Make certain they understand what they are to do, and have them sign a copy of their plan as a sign of good faith.
- *Involve parents as much as possible.*
  You may also wish to involve parents in the remediation plan, if the situation is appropriate. Like your students, make sure the parents understand the steps their child should take to improve his or her performance in your class.
- *Identify common steps and resources that can be used for different levels of remedial study.*
  Try to identify several sets of steps and resources for at least two different levels of student need. For example, you might identify a course of action for students who need a small amount of extra work, and one for those that need a great deal of extra study in the identified academic area.

  Then, as you identify students in need of intervention, you can choose their level and the appropriate remediation plan. While you will probably want to customize the plan per student, you will at least have a defined set of steps with which to begin. After the semester ends, you can then evaluate each plan's success rate and determine what can be revised to improve each set of actions or resources.

Student Remediation Plan

Student _____ **Teacher** _____

Course _____ **Date** _____

Topic/Project/Exam _____

Problem Area	Solution Steps to Be Taken	Resources Needed