GLENCOE
MATHEMATICS

Diagnostic and Placement Tests

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Diagnostic and Placement Tests

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Contents

Using Glencoe's *Diagnostic and Placement Tests*

This booklet is designed to be used in two ways.

- The four tests in this booklet provide tools for helping you make placement decisions within Glencoe's middle school and algebra series:

  Mathematics, Course 1
  Mathematics, Course 2
  Mathematics, Course 3
  Pre-Algebra
  Algebra 1
  Algebra: Concepts and Applications or Algebra: Concepts and Applications, Volumes 1 and 2

  The tests are keyed to *Pathways for Success,* which contains the Glencoe Mathematics Grades 6–12 Scope and Sequence and the Pathways Through the Series chart.

- These tests also provide valuable diagnostic information. See pages 15–27 in this booklet for further information on using these tests as diagnostic tools.
- These tests are also available in Spanish at www.glencoe.com.

Placement Decisions

In making placement decisions for a student, consider a variety of evidence, such as the student's mathematics grades, classroom observations, teacher recommendations, portfolios of student work, standardized test scores, and placement test scores. Use the results of these placement tests in conjunction with other assessments to determine which mathematics course best fits a student's abilities and needs.

Test Content

These placement tests measure ability, but they are *not* achievement tests. They cover prerequisite concepts, not every concept found in a Glencoe mathematics textbook.

As the *Pathways for Success* scope and sequence indicates, concepts are introduced, developed, and reinforced in consecutive courses. These placement tests measure student mastery of concepts and skills that have been introduced or developed in the student's current mathematics course, that are further developed in the next course, but that *are not* developed in the following course.

> For example, in the Number strand, the concept of *simplifying fractions,* in *Mathematics,* Courses 1, 2, and 3. The concept is developed in Course 1 and further developed in Course 2, but it is only reinforced in Course 3. If students have mastered simplifying fractions, Course 3 might be appropriate for them, but if they have not, Course 2 would better meet their needs.

Some concepts are not included in these placement tests, because they are not critical to success in algebra; for example, combinations, probability, and triangle classification.

Some algebra and pre-algebra concepts are not included, because Glencoe continues the development of these essential concepts in each course.

> For example, in the Patterns and Functions Strand, the concept of *graphing linear functions* is introduced and developed in *Mathematics,* Course 3, *Pre-Algebra, Algebra: Concepts and Applications,* and *Algebra 1.* Therefore, it is not included in the placement tests.

The concepts included in each test correspond to the Glencoe *Pathways for Success* scope and sequence. Lists of Learning Objectives for each test item are found on pages 16–19 of this booklet.

Course Offerings and District Philosophy

In addition to student ability, district policy is a major factor in determining which courses a student takes. For example, your district may choose to offer either *Mathematics,* Course 3 or *Pre-Algebra.* These two courses require roughly equivalent ability levels. Both are designed to prepare students for success in *Algebra 1.* However *Pre-Algebra* presents the concepts at a faster pace and is more appropriate for students who will take algebra in the 8th grade.

Algebra 1, Algebra: Concepts and Applications, and *Algebra: Concepts and Applications,* Volumes 1 and 2 do *not* require equivalent ability levels, although all three programs provide a complete algebra course. The chart on page 7 compares these algebra courses.

Placement Options

Each of the four placement tests helps you determine student placement in one of *two* Glencoe courses. The chart below summarizes the placement options for each test.

Current Course	now being taken or recently completed
Next Course	typically taken after the Current Course
Following Course	typically taken after the Next Course

		Placement Options	
Current Course	**Placement Test**	**Next Course**	**Following Course**
Grade 5	1	*Mathematics,* Course 1	*Mathematics,* Course 2
Mathematics, Course 1	2	*Mathematics,* Course 2	*Mathematics,* Course 3 or *Pre-Algebra*
Mathematics, Course 2	3	*Mathematics,* Course 3 or *Pre-Algebra*	*Algebra 1* or *Algebra: Concepts and Applications**
Mathematics, Course 3 or *Pre-Algebra*	4	**Algebra for Lower-Achieving Students**: *Algebra: Concepts and Applications**	**Standard Algebra**: *Algebra 1*

**Algebra: Concepts and Applications* is also available in two volumes to be used as a 2-year course.

When to Use the Placement Tests

In most situations, these placement tests are given near the end of the *Current Course*, in order to help determine student placement for the following year. You can also use these tests in special situations, such as a student transferring into your school mid-year or entering middle school with advanced mathematics ability.

Placement Tests Format

Placement Tests 1, 2, and 3 all use the same format. Each contains 30 multiple-choice questions and is divided into three parts. Part 1 tests prerequisite concepts. Part 2 provides exercises involving computation and basic applications. Part 3 requires students to use higher-level thinking skills.

Format of Placement Tests 1, 2, and 3 and General Placement Suggestions

	Description	Students with low scores . . .	Students with high scores . . .
Part 1	Concepts essential for the **Next Course**; prerequisites	will likely need intervention or remediation in the **Next Course**.	may be ready to take the **Next Course** or the **Following Course**.
Part 2	Concepts developed in the **Next Course**, but *not* developed in the **Following Course**	will likely do better in the **Next Course**.	may be ready to take the **Following Course**.
Part 3	Same concepts as Part 2, involving higher-level thinking skills	will likely do better in the **Next Course**; will likely find the **Following Course** too challenging.	are ready to take the **Following Course**.

Placement Test 4 helps determine placement between *Algebra: Concepts and Applications* and *Algebra 1*. This test has a slightly different format. Its 32 multiple-choice questions are grouped into 4 parts.

The four parts differ in content, in learning style, and in thinking level, as shown in the chart below.

Format of Placement Test 4 and General Placement Suggestions

	Description	Thinking and learning styles	Students with low scores . . .	Students with high scores . . .
Part 1	Basic middle-school number concepts—proportional reasoning, distributive property, and property of proportions	logical	will likely need intervention or remediation in *Algebra: Concepts and Applications.*	may be ready for either *Algebra: Concepts and Applications* or *Algebra 1.*
Part 2	Concrete representations of basic pre-algebra concepts—adding integers with a number line, solving equations with models, and simplifying polynomials with algebra tiles	concrete thinking, visual/ spatial and kinesthetic	will likely do better in *Algebra: Concepts and Applications.*	may be ready for either *Algebra: Concepts and Applications* or *Algebra 1.*
Part 3	Pre-algebra concepts in symbolic form	abstract thinking, logical	will likely do better in *Algebra: Concepts and Applications.*	are ready for *Algebra 1.*
Part 4	Two-step word problems, exponents, integers, expressions, equations, and basic coordinate graphs	abstract thinking, verbal/ linguistic, logical	will likely do better in *Algebra: Concepts and Applications.*	are ready for *Algebra 1.*

Placement Test 4 Comparison Chart

Algebra: Concepts and Applications and *Algebra 1*

Placement Test 4		Course Comparisons	
Number of questions	**Content**	***Algebra: Concepts and Applications***	***Algebra 1***
Part 1 (1–6) 6	Basic number concepts using fractions and decimals	Number concepts are further developed. Prerequisite skills are addressed. Subskills are reviewed where used, in Getting Ready.	Number concepts are reinforced, but not developed.
Part 2 (7–12) 6	Pre-algebra concepts using concrete and graphic models	Models are used extensively. Hands-On Algebra activities help students move from concrete to abstract thinking. Info-Graphics present concepts visually.	Models are used to introduce topics, but students soon move on to symbolic representations.
Part 3 (13–22) 10	Pre-algebra concepts using symbols and mathematical vocabulary	Important concepts are described with words, numbers, and symbols. Exercises closely follow the Examples and provide plenty of practice.	Symbolic representations are emphasized, along with verbal, numerical, and graphic representations.
Part 4 (23–32) 10	Two-step verbal problems, basic algebra and function concepts, graphs	This course requires less reading. Reading Algebra features provide extra help. Vocabulary is emphasized. Critical Thinking exercises help students develop thinking skills.	Students are expected to read fairly well. Critical Thinking exercises require students to explain and justify. Writing in Math activities strengthen communication skills.

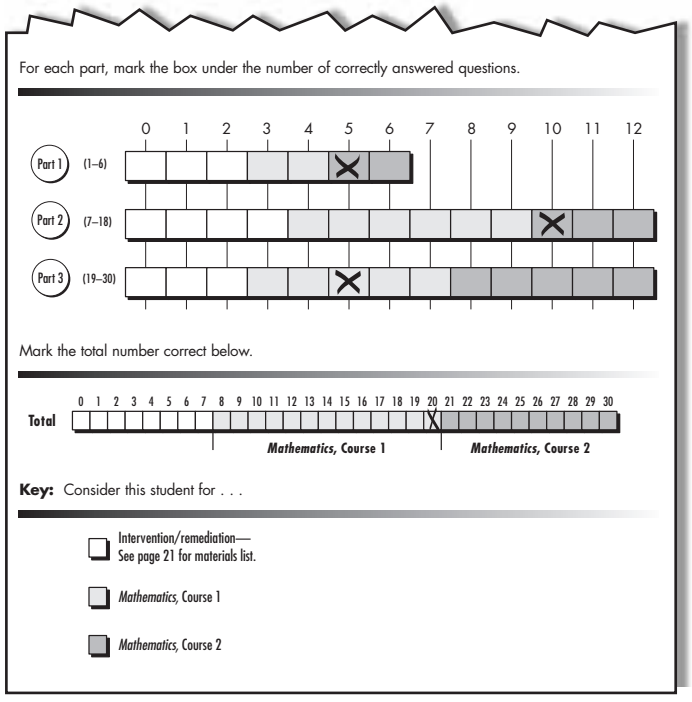
Interpreting Scores

When you interpret scores on the placement tests, consider the student's score on each part, as well as the total score. Scoring Guide Masters on pages 10–13 can be reproduced and used to record each student's score. A sample of a completed Scoring Guide for Test 1 is shown below; a sample for Test 4 is provided on the next page.

The shaded boxes show the range of scores that corresponds to each placement option. If a student's scores on each part of the test fall in the same shaded range, then that course is probably the best placement decision. If a student's scores fall in different ranges or near range boundaries, then analyze the results for each part and use additional assessment results to help determine placement.

Sample Score and Placement Analysis

Sample Score: On Placement Test 1, this student scored 5 questions correct in Part 1, 10 in Part 2, and 5 in Part 3. The total number correct was 20 out of 30.



Sample Analysis

This student scored high on Part 1 and Part 2, but scored in the middle range on Part 3, which tests higher-level thinking skills. If these results are similar to other assessments, this student is likely to do well in *Mathematics,* Course 1, but will likely find *Mathematics,* Course 2, too challenging.

Scoring Placement Test 4

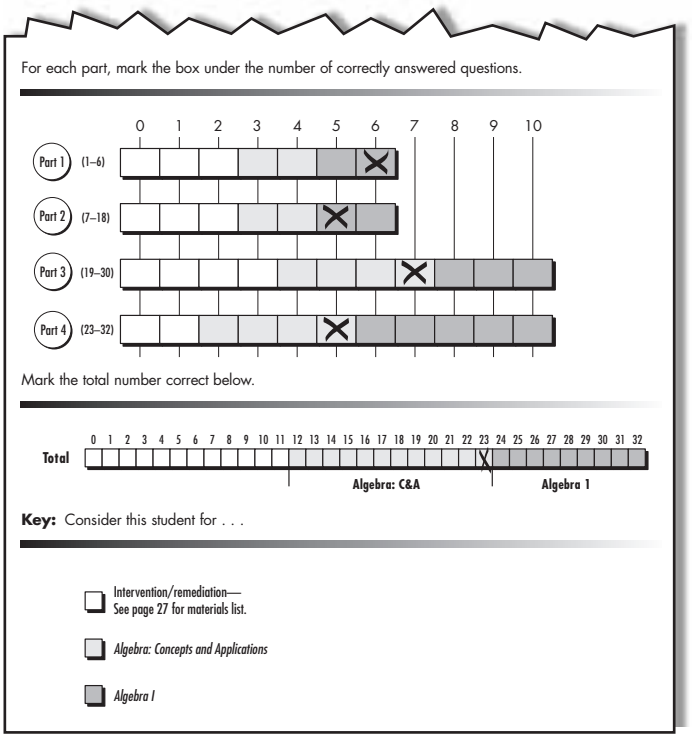
The Scoring Guide for Test 4 is slightly different. It includes four parts, rather than three.

Students who score in the *Algebra 1* range for each of the four parts are ready for *Algebra 1*. Students who score in the *Algebra: Concepts and Applications* range or below in each of the four parts, are best served by *Algebra: Concepts and Applications.*

To place students who score in the *Algebra 1* range on only two or three parts, use other factors, such as previous mathematics grades and teacher recommendations.

Sample Score and Placement Analysis

Sample Score: On Placement Test 4, this student scored 6 questions correct in Part 1, 5 in Part 2, 7 in Part 3, and 5 in Part 4. The total number correct was 23 out of 32.



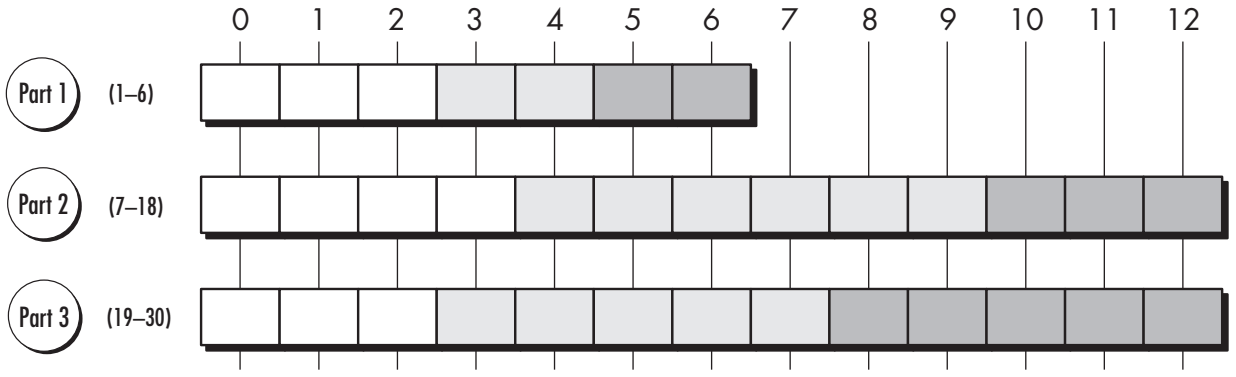
Sample Analysis

This student could be placed in either algebra course. This student will likely do well in *Algebra: Concepts and Applications,* but many find *Algebra 1* challenging. This student may need additional help to succeed in *Algebra 1* since Parts 3 and 4 show relatively low scores. Check which questions were missed to determine whether the student has English language or reading difficulties.

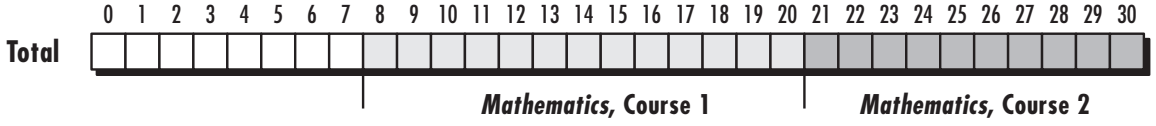
Placement Test 1 Scoring Guide

Student Name _____

For each part, mark the box under the number of correctly answered questions.



Mark the total number correct below.



Key: Consider this student for . . .

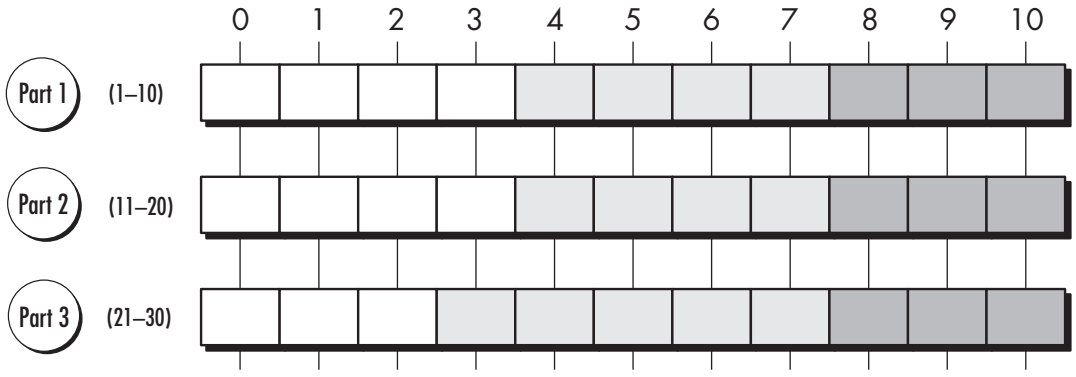
- ☐ Intervention/remediation— See page 21 for materials list.
- ☐ *Mathematics,* Course 1
- ☐ *Mathematics,* Course 2

Placement Test 2

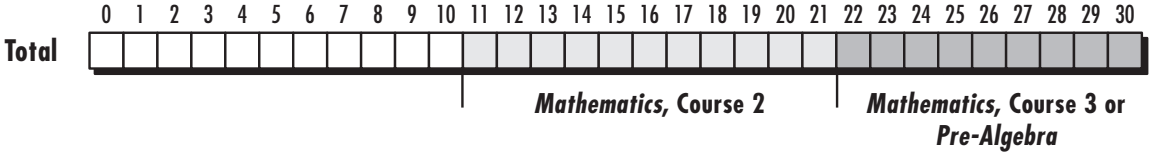
Scoring Guide

Student Name _____

For each part, mark the box under the number of correctly answered questions.



Mark the total number correct below.



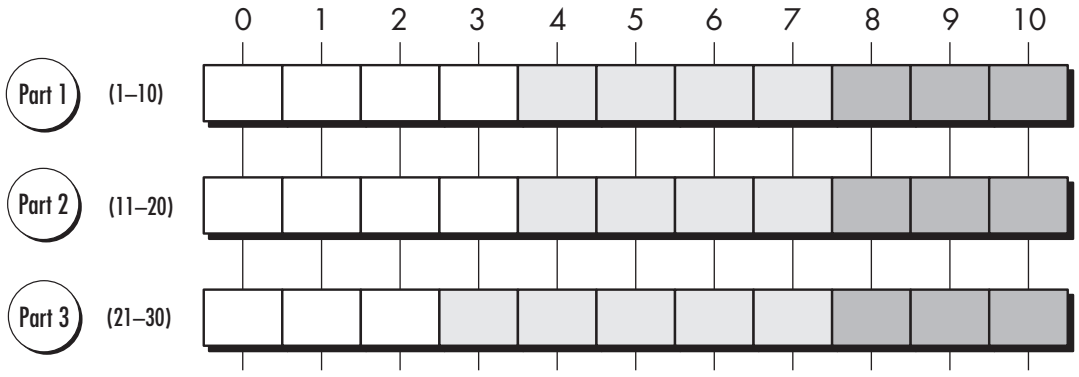
Key: Consider this student for . . .

- ☐ Intervention/remediation— See page 23 for materials list.
- ☐ *Mathematics,* Course 2
- ☐ *Mathematics,* Course 3 or *Pre-Algebra*

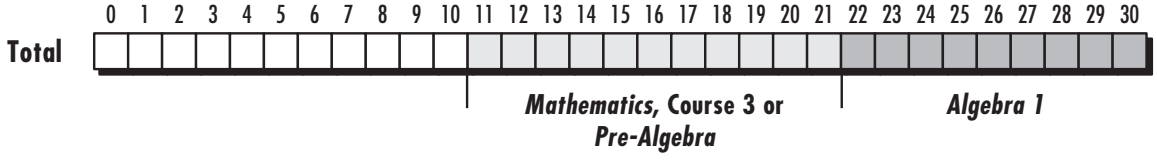
Placement Test 3 Scoring Guide

Student Name _____

For each part, mark the box under the number of correctly answered questions.



Mark the total number correct below.



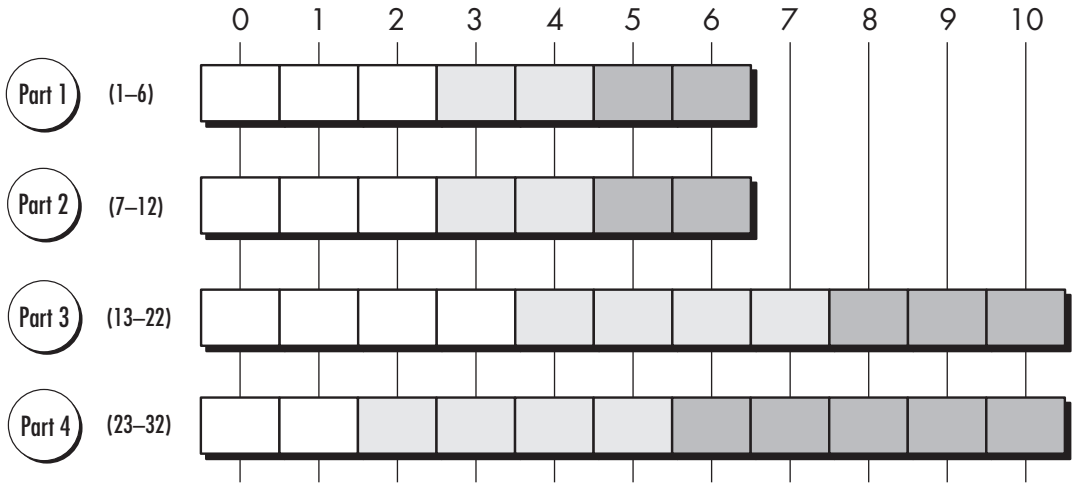
Key: Consider this student for . . .

- ☐ Intervention/remediation— See page 25 for materials list.
- ☐ *Mathematics,* Course 3 or *Pre-Algebra*
- ☐ *Algebra 1*

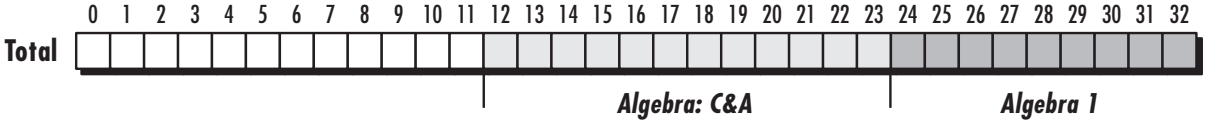
Placement Test 4 Scoring Guide

Student Name _____

For each part, mark the box under the number of correctly answered questions.



Mark the total number correct below.



Key: Consider this student for . . .

- ☐ Intervention/remediation—
  See page 27 for materials list.
- ☐ *Algebra: Concepts and Applications* or *Algebra: Concepts and Applications,* Volumes 1 and 2
- ☐ *Algebra 1*

Using Placement Tests for Diagnostic Purposes

These placement tests also provide valuable diagnostic information for classroom teachers. Reproducible learning objective charts on pages 16–19 list the learning objective for each test question. By marking each question the student answered incorrectly, you can see which objectives the student has not mastered.

You can use the learning objective charts along with the *Pathways for Success* scope and sequence chart to find the page numbers in each textbook where an objective is introduced, developed, or reinforced.

Glencoe's wide variety of supplementary materials, such as the Study Guide and Intervention worksheets, Skills Practice worksheets, Practice worksheets, and Word Problem Practice worksheets available in the *Chapter Resource Masters*, and the ExamView® *Assessment Suite* CD-ROM, can provide intervention and remedial help. Diagnostic charts for each test, on pages 20–27, describe the intervention that students may require and include a list of Glencoe print and technology materials.

If these tests are given near the end of the student's current course, it is recommended that the diagnostic information be shared with the teacher of that student's next course, in order to provide appropriate intervention during the next year.

Student Name _____

In the column on the left, mark the questions that the student answered *incorrectly.*

	May Need Intervention	#	Strand	Objective
Part 1	❑	1	Number	order whole numbers
	❑	2	Number	round whole numbers
	❑	3	Number	add whole numbers with regrouping
	❑	4	Number	subtract whole numbers with regrouping
	❑	5	Number	word problem with whole numbers (multiplication, division)
	❑	6	Number	word problem, 2-step (addition, subtraction)
Part 2	❑	7	Number	subtract decimals
	❑	8	Number	add decimals
	❑	9	Number	round decimals
	❑	10	Number	mixed numbers and improper fractions
	❑	11	Number	write a fraction with denominator of 10 or 100 as a decimal
	❑	12	Number	write a decimal as a fraction
	❑	13	Number	estimate with decimals
	❑	14	Geometry	area of a rectangle
	❑	15	Number	ordering decimals
	❑	16	Number	express fraction as a decimal
	❑	17	Number	solve a word problem with decimals
	❑	18	Number	solve a word problem with fractions
Part 3	❑	19	Number	subtract decimals
	❑	20	Number	add decimals
	❑	21	Number	round decimals
	❑	22	Number	fractions, LCD
	❑	23	Number	write a fraction with denominator of 10 or 100 as a decimal
	❑	24	Number	write a decimal as a fraction
	❑	25	Number	estimate with decimals
	❑	26	Geometry	area of a rectangle
	❑	27	Number	ordering decimals
	❑	28	Number	express a fraction as a decimal
	❑	29	Number	solve a word problem with decimals
	❑	30	Number	solve a word problem with fractions

Placement Test 2

Learning Objectives

Student Name _____

In the column on the left, mark the questions that the student answered *incorrectly*.

	May Need Intervention	#	Strand	Objective
Part 1	❑	1	Number	subtract decimals
	❑	2	Number	add decimals
	❑	3	Number	round decimals
	❑	4	Number	mixed numbers, improper fractions
	❑	5	Number	write a fraction with denominator of 10 or 100 as a decimal
	❑	6	Number	write a decimal as a fraction
	❑	7	Number	ordering decimals
	❑	8	Number	express fraction as a decimal
	❑	9	Number Measurement	solve a word problem with decimals, time units
	❑	10	Number	estimate with decimals
Part 2	❑	11	Number	multiply decimals
	❑	12	Number	round decimals
	❑	13	Number	order of operations
	❑	14	Number	powers of ten
	❑	15	Measurement	convert metric measurements
	❑	16	Number	associative, commutative properties
	❑	17	Number	integer representations
	❑	18	Algebra	evaluate expressions
	❑	19	Geometry	perimeter
	❑	20	Algebra	plot points on a coordinate plane
Part 3	❑	21	Number	multiply decimals
	❑	22	Number	round decimals
	❑	23	Number	order of operations
	❑	24	Number	powers of ten
	❑	25	Number	greatest common factor, prime factorization
	❑	26	Number	associative, commutative properties
	❑	27	Number	integer representations
	❑	28	Algebra Number	evaluate expressions, order of operations
	❑	29	Geometry	perimeter
	❑	30	Algebra	plot points on a coordinate plane

Placement Test 3

Learning Objectives

Student Name _____

In the column on the left, mark the questions that the student answered *incorrectly*.

	May Need Intervention	#	Strand	Objective
Part 1	❑	1	Number	simplify fractions
	❑	2	Number	order fractions
	❑	3	Number Algebra	order of operations, evaluate expressions
	❑	4	Number	relating decimals, fractions, percents
	❑	5	Number	relating decimals, fractions, percents
	❑	6	Number	greatest common factor, prime factorization
	❑	7	Number	associative, commutative properties
	❑	8	Geometry	perimeter
	❑	9	Algebra	plot points on a coordinate plane
	❑	10	Geometry Algebra	area of a rhombus and trapezoid, evaluate expressions
Part 2	❑	11	Number	express fractions as decimals
	❑	12	Number	distributive property, multiply fractions
	❑	13	Number Proportional Reasoning	property of proportions
	❑	14	Number Proportional Reasoning	add and subtract fractions
	❑	15	Number Proportional Reasoning	multiply and divide fractions and mixed numbers
	❑	16	Number Proportional Reasoning	relating ratio and rates
	❑	17	Number Proportional Reasoning	percent proportion
	❑	18	Patterns and Functions	informal arithmetic and geometric sequences
	❑	19	Algebra	write expressions and equations
	❑	20	Geometry Algebra	area of circle, evaluate expressions
Part 3	❑	21	Number	express fractions as decimals
	❑	22	Data Analysis Number	mean, median, mode order decimals
	❑	23	Number Proportional Reasoning	multiply and divide fractions
	❑	24	Proportional Reasoning	percent proportion
	❑	25	Patterns and Functions	informal arithmetic and geometric sequences
	❑	26	Algebra	write expressions and equations
	❑	27	Algebra	positive integer exponents
	❑	28	Data Analysis Number	box-and-whisker plot percent
	❑	29	Data Analysis	stem-and-leaf plots, median
	❑	30	Data Analysis	organize data in a table, line graphs

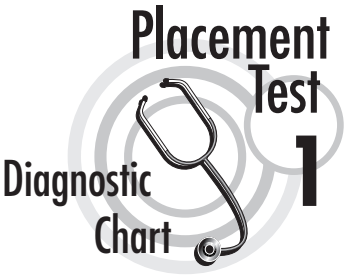
Placement Test 4

Learning Objectives

Student Name _____

In the column on the left, mark the questions that the student answered *incorrectly*.

	May Need Intervention	#	Strand	Objective
Part 1	❑	1	Number/Proportional Reasoning	multiply, divide fractions
	❑	2	Number/Proportional Reasoning	add and subtract fractions
	❑	3	Number/Proportional Reasoning	express fractions as decimals
	❑	4	Number/Proportional Reasoning	operate with mixed numbers
	❑	5	Number	distributive property
	❑	6	Number/Proportional Reasoning	property of proportions
Part 2	❑	7	Number	add and subtract integers with models
	❑	8	Algebra	solve equations with models
	❑	9	Number	percents with model
	❑	10	Geometry Algebra	area of a trapezoid, use a formula, evaluate expressions
	❑	11	Algebra	simplify polynomials with models, combine like terms
	❑	12	Geometry	area of a parallelogram
Part 3	❑	13	Patterns and Functions, Number	informal arithmetic and geometric sequences, operations with integers
	❑	14	Number	multiply and divide integers
	❑	15	Number	add and subtract integers
	❑	16	Number Algebra	order of operations, evaluate expressions
	❑	17	Algebra	exponents and powers
	❑	18	Number/Proportional Reasoning	ratio and rates
	❑	19	Number/Proportional Reasoning	fractions and decimals as percents
	❑	20	Number/Proportional Reasoning	percent proportion
	❑	21	Algebra	solve simple equations
	❑	22	Patterns and Functions	function table
Part 4	❑	23	Number	2-step word problem, add and subtract decimals
	❑	24	Number	2-step word problem, multiply, divide decimals
	❑	25	Algebra Number	positive integer exponents, operations with rational numbers
	❑	26	Number	read, write integers, order integers, inequalities
	❑	27	Algebra	write expressions and equations
	❑	28	Data Analysis	scatter plot, positive, negative, or no correlation
	❑	29	Data Analysis Patterns and Functions	line graph, sketch graphs from events
	❑	30	Data Analysis	line graphs
	❑	31	Coordinate Geometry	graphing ordered pairs, graphing lines
	❑	32	Patterns and Functions Algebra	represent functions and relations, solve equations with two variables



Placement Options:

Mathematics, Course 1
or
Mathematics, Course 2

	Content	Suggestions for Intervention/Remediation
Part 1	Operations with whole numbers; order whole numbers; solve word problems with whole numbers	These concepts are essential for success in *Mathematics,* Course 1. Students who score low in this part will benefit from intervention.
Part 2	Addition and subtraction of decimals; round decimals; estimate with decimals; order decimals; solve word problems with decimals and fractions; area of a rectangle	These concepts continue to be developed in *Mathematics,* Course 1, but not in *Mathematics*, Course 2. Students who score low in this part may need additional reinforcement and practice with these concepts.
Part 3	Addition and subtraction of decimals; round decimals; estimate with decimals; order decimals; solve word problems with decimals and fractions; area of a rectangle	These problems involve higher-level thinking skills. Students who score low in this part and are placed in *Mathematics*, Course 1, will likely *not* need intervention. Students who score low in this part, but are placed in *Mathematics*, Course 2, will likely need additional help.

Mathematics, Course 1

Print Materials	
Study Guide and Intervention Masters	A brief explanation, along with examples and exercises, for every lesson in the Student Edition. These are included in the Chapter Resource Masters.
Skills Practice Masters	Additional practice for every lesson in the Student Edition. These masters appear in the Chapter Resource Masters.
Practice Masters	Additional practice for every lesson that includes word problems like those in the Student Edition.
Study Guide and Intervention Workbook	A consumable version of the Study Guide and Intervention Masters for each lesson. *Also available in Spanish.*
Skills Practice Workbook	A consumable version of the Skills Practice Masters for each lesson. *Also available in Spanish.*
Math Skills Maintenance	Worksheets for basic mathematics skills.
Practice Workbook	A consumable version of the Practice Masters for each lesson. *Also available in Spanish.*

Technology Products	
ExamView® Assessment Suite CD-ROM	Create multiple versions of tests, including modified tests for inclusion students. Edit existing questions and add your own. Build tests aligned with state standards using built-in state curriculum correlations. Change English tests to Spanish and vice versa with one mouse click.
MindJogger Videoquizzes	Chapter review provided in a game-show format.
Glencoe Internet Site	Visit **www.glencoe.com** and find software downloads and Online Study Tools, including self-grading lesson-by-lesson reviews, standardized test practice, and vocabulary review.

Placement Test 2
Diagnostic Chart

Placement Options:
Mathematics, Course 2
or
Mathematics, Course 3
or
Pre-Algebra

	Content	Suggestions for Intervention/Remediation
Part 1	Addition and subtraction of decimals; round decimals; estimate with decimals; order decimals; solve word problems with decimals and fractions	These concepts are essential for success in *Mathematics,* Course 2. Students who score low in this part will benefit from intervention.
Part 2	Operations with decimals, powers of ten; order decimals using formulas for perimeter; order of operations; represent integers; associative and commutative properties; plot points on a coordinate plane	These concepts continue to be developed in *Mathematics*, Course 2, but not in *Mathematics*, Course 3, or *Pre-Algebra*. Students who score low in this part may need additional reinforcement and practice with some of these concepts.
Part 3	Operations with decimals, powers of ten; order decimals greatest common factor; order of operations; represent integers; plot points on a coordinate plane	These problems involve higher-level thinking skills. Students who score low in this part and are placed in *Mathematics*, Course 2, will likely *not* need intervention. Students who score low in this part, but are placed in *Mathematics*, Course 3, will likely need additional help.

Mathematics, Course 2
and
Mathematics, Course 3

Print Materials	
Study Guide and Intervention Masters	A brief explanation, along with examples and exercises, for every lesson in the Student Edition. These are included in the Chapter Resource Masters.
Skills Practice Masters	Additional practice for every lesson in the Student Edition. These masters appear in the Chapter Resource Masters.
Practice Masters	Additional practice for every lesson that includes word problems like those in the Student Edition.
Study Guide and Intervention Workbook	A consumable version of the Study Guide and Intervention Masters for each lesson. *Also available in Spanish.*
Skills Practice Workbook	A consumable version of the Skills Practice Masters for each lesson. *Also available in Spanish.*
Math Skills Maintenance	Worksheets for basic mathematics skills.
Practice Workbook	A consumable version of the Practice Masters for each lesson. *Also available in Spanish.*

Technology Products	
ExamView® Assessment Suite CD-ROM	Create multiple versions of tests, including modified tests for inclusion students. Edit existing questions and add your own. Build tests aligned with state standards using built-in state curriculum correlations. Change English tests to Spanish and vice versa with one mouse click.
MindJogger Videoquizzes	Chapter review provided in a game-show format.
Glencoe Internet Site	Visit **www.glencoe.com** and find software downloads and Online Study Tools, including self-grading lesson-by-lesson reviews, standardized test practice, and vocabulary review.

Placement Test 3
Diagnostic Chart

Placement Options:
Mathematics, Course 3
or
Pre-Algebra
or
Algebra 1

	Content	Suggestions for Intervention/Remediation
Part 1	Basic number concepts representing fractions and decimals; greatest common factor; plot points on a coordinate plane	These concepts are essential for success in *Mathematics*, Course 3, or *Pre-Algebra*. Students who score low in this part will benefit from intervention.
Part 2	Operations with fractions; distributive property; percent proportion; sequences; writing algebraic expressions; evaluate expressions; area of circle	These concepts continue to be developed in *Mathematics*, Course 3, or *Pre-Algebra*, but not in *Algebra 1*. Students who score low in this part may need additional reinforcement and practice with some of these concepts.
Part 3	Operations with fractions; percent proportion; sequences; write equations; exponents; box-and-whisker plot; stem, and leaf plots	These problems involve higher-level thinking skills. Students who score low in this part and are placed in *Mathematics*, Course 3, or *Pre-Algebra* will likely *not* need intervention. Students who score low in this part and are placed in *Algebra 1* will likely need additional help.

Pre-Algebra
or
Algebra 1

Print Materials	
Study Guide and Intervention Masters	A brief explanation, along with examples and exercises, for every lesson in the Student Edition. (One page per lesson for *Pre-Algebra,* two pages per lesson for *Algebra 1*.) These masters are included in the Chapter Resource Masters.
Skills Practice Masters	Additional practice in computational exercises for each lesson in the Student Edition. These masters are included in the Chapter Resource Masters.
Practice Masters	Additional practice in computational and application exercises for each lesson in the Student Edition. These masters are included in the Chapter Resource Masters.
Study Guide and Intervention Workbook	A consumable version of the Study Guide and Intervention Masters for each lesson. *Also available in Spanish.*
Skills Practice Workbook	A consumable version of the Skills Practice Masters for each lesson. *Also available in Spanish.*
Practice Workbook	A consumable version of the Practice Masters for each lesson. *Also available in Spanish.*
Prerequisite Skills Workbook	Arithmetic study guide and practice pages for each of 50 prerequisite skills that review basic math concepts.

Technology Products	
ExamView® Assessment Suite	Networkable software includes a Worksheet Builder to make worksheets and tests, a Student Module to take tests on-screen, and a Management System to keep student records.
MindJogger Videoquizzes	Chapter review provided in a game-show format.
Vocabulary PuzzleMaker Software	Improves students' mathematics vocabulary using crossword puzzles, scrambles, and word searches.
Glencoe Internet Site	Visit **www.glencoe.com** and find Online Study Tools, including self-grading lesson-by-lesson reviews, standardized test practice, and vocabulary review.

Placement Test 4
Diagnostic Chart

Placement Options:
Algebra: Concepts and Applications
or
Algebra: Concepts and Applications, Volumes 1 and 2
or
Algebra 1

	Content	Suggestions for Intervention/Remediation
Part 1	Basic number concepts using fractions and decimals	These questions should be easy for beginning algebra students. If students score low, check to see whether they have made mistakes in marking their answers or in understanding the instructions. Students who score low may need additional help outside of algebra class.
Part 2	Pre-algebra concepts using graphic models	These questions should be easy for students with a visual learning style. They indicate whether students have mastered pre-algebra concepts at a concrete level. If students have difficulty here, they may need more work with hands-on, manipulative activities.
Part 3	Pre-algebra concepts using symbols	Students who find these questions challenging may benefit from activities using manipulatives and visual aids. They may need extra help in moving from the concrete to the abstract level of thinking.
Part 4	Two-step, verbal problems, basic algebra and function concepts, graphs	Questions 25 and 26 require reading and problem-solving skills. If students have difficulty, check their English language skill level. Question 27 combines rational number operations and positive exponents. Questions 28 and 29 require translations of mathematical words into symbols. Questions 30–33 require graphing skill. Questions 33 and 34 involve plotting points and graphing lines.

Algebra: Concepts and Applications
or
Algebra: Concepts and Applications, Volumes 1 and 2

Print Materials	
Study Guide Masters	A brief explanation, along with examples and exercises, for every lesson in the Student Edition. *Also available as a workbook.*
Practice Masters	Additional practice for every lesson in the Student Edition. *Also available as a workbook.*
Prerequisite Skills Workbook	Study guide and practice pages for each of 50 prerequisite skills that review algebra.
Spanish Study Guide and Assessment	Spanish translations of lesson objectives, Study Guide Masters, and free response Chapter Tests.

Technology Products	
ExamView® Assessment Suite	Networkable software includes a Worksheet Builder to make worksheets and tests, a Student Module to take tests on-screen, and a Management System to keep student records.
MindJogger	Chapter review provided in a game-show format.
Vocabulary PuzzleMaker Software	Improves students' mathematics vocabulary using crossword puzzles, scrambles, and word searches.
Glencoe Internet Site	Visit **www.glencoe.com** and find Online Study Tools, including self-grading lesson-by-lesson reviews, standardized test practice, and vocabulary review.

Diagnostic and Placement Test 1

Name _____

Date _____

This test contains 30 multiple-choice questions. Work each problem in the space on this page. Select the best answer. Write the letter of the answer on the blank at the right.

Part 1

1. Which set of numbers is in order from least to greatest? **1.** _____

a. 721, 691, 522, 718, 709
b. 522, 691, 718, 709, 721
c. 522, 691, 709, 718, 721
d. 721, 691, 522, 718, 709

2. What is 8,342 rounded to the nearest hundred? **2.** _____

a. 8,340
b. 8,300
c. 8,400
d. 8,000

3. 354 + 78 = __?__ **3.** _____

a. 322
b. 332
c. 422
d. 432

4. 402 − 49 = __?__ **4.** _____

a. 353
b. 363
c. 451
d. 453

5. A color printer can print six pages per minute. How long will it take to print 24 pages? **5.** _____

a. 2.4 min
b. 3 min
c. 4 min
d. 6 min

6. Two classes set a goal of collecting a total of 500 cans for the food drive. Mr. Hart's class collected 123 cans. Ms. Zani's class collected 237 cans. How many more cans are needed to reach the goal? **6.** _____

a. 114
b. 140
c. 263
d. 360

Part 2

7. $8.4 - 3.73 =$ __?__ **7.** _____

a. 3.11
b. 4.67
c. 4.77
d. 5.1

8. $2.3 + 8.101 =$ __?__ **8.** _____

a. 1.0401
b. 8.124
c. 10.104
d. 10.401

9. What is 1.324 rounded to the nearest whole number? **9.** _____

a. 1
b. 1.300
c. 1.5
d. 2

10. Which improper fraction is equivalent to $2\frac{3}{5}$? **10.** _____

a. $\frac{6}{5}$
b. $\frac{10}{5}$
c. $\frac{13}{5}$
d. $\frac{17}{5}$

11. Which decimal is equivalent to the fraction $\frac{7}{100}$? **11.** _____

a. 0.007
b. 0.07
c. 0.7
d. 7.0

12. Which fraction is equivalent to 0.3? **12.** _____

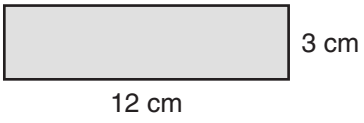
a. $\frac{0.3}{10}$
b. $\frac{3}{100}$
c. $\frac{3}{10}$
d. $\frac{30}{10}$

13. What is a good estimate of $79.1 - 69.5$? **13.** _____

a. 9.6
b. 10
c. 10.4
d. 150

14. What is the area of the rectangle below? **14.** _____

a. 4 cm^2
b. 15 cm^2
c. 21 cm^2
d. 36 cm^2



15. Which number is greater than 0.7? **15.** _____

a. 0.15
b. 0.65
c. 0.09
d. 0.72

16. Which decimal represents $\frac{3}{5}$? **16.** _____

a. 0.03
b. 0.3
c. 0.06
d. 0.6

17. Keira was paid \$2.50, \$3.75, and \$4 for baby-sitting on three evenings. What is the total amount she earned baby-sitting? **17.** _____

a. \$7.29
b. \$9.25
c. \$9.80
d. \$10.25

18. Tom had an 8-foot piece of rope. He used $5\frac{1}{2}$ feet of rope to tie a young tree to a stake. How much rope was left over? **18.** _____

a. $2\frac{1}{2}$ ft **b.** $3\frac{1}{2}$ ft

c. $4\frac{1}{2}$ ft **d.** $5\frac{1}{2}$ ft

Part 3

19. If $x = 10.05 - 2.4$, then $x =$ __?__ **19.** _____

a. 7.65
b. 8.1
c. 8.65
d. 9.81

20. On a day in 2005, one U.S. dollar was equal to 0.825606 Euro, and 10 U.S. dollars equaled 8.25606 Euros. On that day, what was the value of \$11 in Euros? **20.** _____

a. 9.07166
b. 16.51212
c. 18.25606
d. 90.81666

Test 1, page 5

21. What is 99.96 rounded to the nearest tenth? **21.** _____

a. 0.9
b. 1.9
c. 99.10
d. 100.0

22. What is the least common denominator (LCD) of $\frac{3}{4}$ and $\frac{1}{6}$? **22.** _____

a. 2
b. 10
c. 12
d. 24

23. Which decimal is equivalent $10\frac{5}{100}$? **23.** _____

a. 10.005
b. 10.05
c. 10.5
d. 15

24. Which number expresses 2.75 as a mixed number in simplest form? **24.** _____

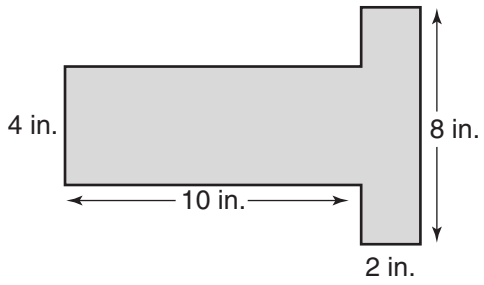
a. $2\frac{3}{4}$
b. $2\frac{15}{20}$
c. $2\frac{75}{100}$
d. $2\frac{75}{10}$

25. On average, 53.3 customers enter Food Haven grocery between 8:00 A.M. and 9:00 A.M. About 55 customers enter between 9:00 A.M. and 10:00 A.M. Estimate the total number of customers entering Food Haven between 8:00 A.M. and 10:00 A.M. **25.** _____

a. 2
b. 50
c. 58.8
d. 110

26. What is the area of the figure below? **26.** _____

a. 24 in^2
b. 46 in^2
c. 56 in^2
d. 640 in^2



27. Which list of decimals is in order from least to greatest? **27.** _____

a. 0.1, 0.14, 0.05, 0.08, 0.32
b. 0.1, 0.05, 0.08, 0.14, 0.32
c. 0.1, 0.05, 0.08, 0.14, 0.32
d. 0.05, 0.08, 0.1, 0.14, 0.32

28. Which number represents one hundred three and eighteen thousandths? **28.** _____

a. 130.18
b. 103.18
c. 103.018
d. 103.0018

29. Sara bought a paperback book for $7.79. She gave the clerk a $10 bill. About how much change should she get? **29.** _____

a. $1
b. $2
c. $3
d. $4

30. Rene is making a border across the top of a bulletin board that is 51 inches long. She uses pieces of red paper that are $8\frac{1}{2}$ inches long, placed end to end. How many pieces of paper will she need? **30.** _____

a. 4
b. 6
c. $42\frac{1}{2}$
d. $59\frac{1}{2}$

Diagnostic and Placement Test 2

Name _____

Date _____

This test contains 30 multiple-choice questions. Work each problem in the space on this page. Select the best answer. Write the letter of the answer on the blank at the right.

Part 1

1. $7.6 - 5.88 =$ __?__ **1.** _____

a. 1.72
b. 1.82
c. 2.72
d. 2.88

2. $54.5 + 48.51 =$ __?__ **2.** _____

a. 10.301
b. 53.96
c. 100
d. 103.01

3. What is 10.0879 rounded to the nearest thousandth? **3.** _____

a. 10.080
b. 10.088
c. 10.09
d. 10.1

4. Which number is equivalent to $\frac{36}{8}$? **4.** _____

a. 4

b. $4\frac{1}{8}$

b. $4\frac{1}{4}$

d. $4\frac{1}{2}$

5. Which decimal is equivalent to the fraction $\frac{80}{1{,}000}$? **5.** _____

a. 0.008
b. 0.080
c. 0.800
d. 8.000

6. Which fraction is equivalent to 0.07? **6.** _____

a. $\frac{0.7}{100}$

b. $\frac{7}{1{,}000}$

c. $\frac{7}{100}$

d. $\frac{70}{10}$

7. Which number is less than 0.08? **7.** _____

a. 0.7

b. 0.16

c. 0.083

d. 0.075

8. Which decimal represents $1\frac{5}{8}$? **8.** _____

a. 0.625

b. 1.4

c. 1.625

d. 1.6

9. A bamboo plant can grow 35.4 inches per day. About how many inches can it grow in an hour? **9.** _____

a. 0.7

b. 1.5

c. 3

d. 11.4

10. What is an estimate for the sum of 38.23 and 11.8? **10.** _____

a. 26

b. 30

c. 50

d. 50.03

Part 2

11. $0.8 \times 0.15 =$ __?__ **11.** _____

a. 0.012
b. 0.12
c. 1.2
d. 12

12. $18.6 \div 3.1 =$ __?__ **12.** _____

a. 0.06
b. 0.6
c. 6
d. 60

13. $5 + 3 \cdot 8 =$ __?__ **13.** _____

a. 16
b. 19
c. 29
d. 64

14. 100 centimeters = 1 meter. How many centimeters are there in 0.36 meters? **14.** _____

a. 3.6
b. 13
c. 36
d. 360

15. José is 173 centimeters tall. What is his height in meters? **15.** _____

a. 0.0173 m
b. 0.173 m
c. 1.73 m
d. 17.3 m

16. Which statement shows the commutative property of multiplication? **16.** _____

a. $5 \times \frac{1}{5} = 1$

b. $5 \times 3 = 3 \times 5$

c. $5 \times (3 \times 2) = (5 \times 193) \times 2$

d. $5(3 + 2) = 5 \times 3 + 5 \times 2$

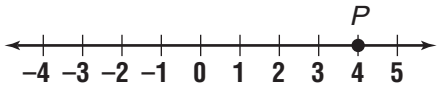
17. For the integer marked P on the number line, what is its opposite? **17.** _____

a. -4

b. 0

c. 1

d. 4



18. If $x = 3$ and $y = 2$, then $2x - y =$ ___?___. **18.** _____

a. 1

b. 2

c. 3

d. 4

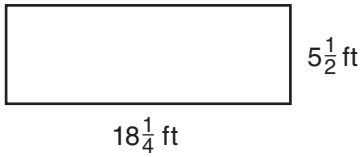
19. How much fencing will be needed to fence the garden in the diagram below? **19.** _____

a. $23\frac{3}{4}$ ft

b. $29\frac{1}{4}$ ft

c. $47\frac{1}{2}$ ft

d. $58\frac{1}{2}$ ft



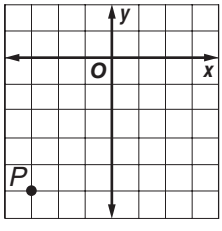
20. What are the coordinates of the point labeled P? **20.** _____

a. $(-5, -5)$

b. $(-3, -5)$

c. $(5, -3)$

d. $(-3, 5)$



Part 3

21. If the British unit of money, the pound, is worth 1.45 dollars ($1.45), what is the value of 220 pounds? **21.** _____

a. $31.90
b. $319.00
c. $580.00
d. $3190.00

22. If $t = 8.4 \div 2.4$, then $t =$ __?__ **22.** _____

a. 0.35
b. 0.45
c. 3.5
d. 4.5

23. $3(4 + 6) \div 6 =$ __?__ **23.** _____

a. 3
b. 5
c. 10
d. 12

24. $0.47 \times 10^3 =$ __?__ **24.** _____

a. 0.047
b. 4.7
c. 47
d. 470

25. What is the greatest common factor (GCF) of 36, 72, and 90? **25.** _____

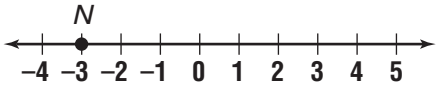
a. 4
b. 9
c. 18
d. 36

26. Which expression is equivalent to $1.5 \times (2.2 \times 3.9)$? **26.** _____

a. $(1.5 \times 2.2) + (2.2 \times 3.9)$
b. $1.5 \times (2.2 + 3.9)$
c. $1.5 + (2.2 \times 3.9)$
d. $(1.5 \times 2.2) \times 3.9$

27. For the integer marked N on the number line, which set lists the integer, its opposite, and its absolute value in order? **27.** _____

a. $\{-3, 3, -3\}$
b. $\{-3, 3, 3\}$
c. $\{-3, -3, 3\}$
d. $\{3, -3, 3\}$



28. If $r = 4$, $s = 7$, and $t = 2$ then $\frac{t(r + s) - s}{r + 1} =$ ___?___. **28.** _____

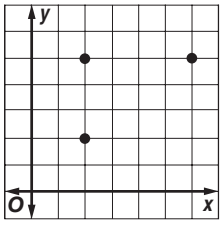
a. $\frac{8}{5}$
b. 3
c. 15
d. 22

29. Which has the greater perimeter, a square with side 8 units or a rectangle with length 14 units and width 2 units? **29.** _____

a. the square
b. the rectangle
c. the perimeters are equal
d. It cannot be determined.

30. The points (2, 5), (2, 2), and (6, 5) are three vertices of a rectangle. What are the coordinates of the fourth vertex? **30.** _____ _____

a. (2, 6)
b. (4, 2)
c. (5, 2)
d. (6, 2)



Diagnostic and Placement Test 3

Name _____

Date _____

This test contains 30 multiple-choice questions. Work each problem in the space on this page. Select the best answer. Write the letter of the answer on the blank at the right.

Part 1

1. Which fraction is NOT equivalent to $\frac{7}{30}$? **1.** _____

a. $\frac{35}{100}$

b. $\frac{28}{80}$

c. $\frac{21}{60}$

d. $\frac{14}{50}$

2. Which fraction is less than $\frac{3}{4}$? **2.** _____

a. $\frac{7}{8}$

b. $\frac{7}{12}$

c. $\frac{15}{16}$

d. $\frac{17}{20}$

3. Evaluate $\frac{t^2 - s \cdot 8 \div 2}{s + 5}$ when $s = 3$ and $t = 4$. **3.** _____

a. -10

b. $\frac{1}{2}$

c. $\frac{14}{5}$

d. $\frac{13}{2}$

4. Which decimal has the same value as $\frac{7}{8}$? **4.** _____

a. 0.75

b. 0.777

c. 0.875

d. 0.975

5. Express 5% as a fraction in simplest form. **5.** _____

a. $\frac{1}{5}$ **b.** $\frac{1}{20}$

c. $\frac{5}{100}$ **d.** $\frac{20}{100}$

6. What is the greatest common factor (GCF) of 70, 84, and 98? **6.** _____

a. 2
b. 7
c. 9
d. 14

7. Which statement shows the associative property of multiplication? **7.** _____

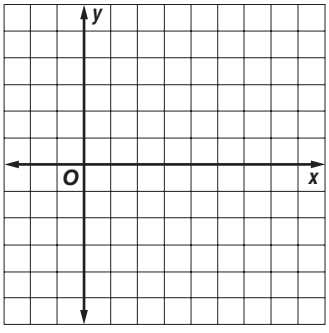
a. $4 \cdot \frac{1}{4} = 1$
b. $4 \cdot 3 = 3 \cdot 4$
c. $4 \cdot (3 \cdot 7) = (4 \cdot 3) \cdot 7$
d. $4(3 + 7) = 4 \cdot 3 + 4 \cdot 7$

8. What is the perimeter of a rectangle with length 16.8 units and width 9.6 units? **8.** _____

a. 26.4
b. 43.2
c. 52.8
d. 161.28

9. The points (2, −3), (8, 3), and (2, 3) are three vertices of a square. What are the coordinates of the fourth vertex? **9.** _____

a. (−8, −3)
b. (−8, 3)
c. (−2, 3)
d. (8, −3)



10. What is the area of a trapezoid with height 8 centimeters and bases 3.6 centimeters and 11.8 centimeters? (The formula for the area of a trapezoid is $A = \frac{1}{2}h(a + b)$.) **10.** _____

a. 22.68 cm^2 **b.** 61.8 cm^2

c. 68.44 cm^2 **d.** 123.6 cm^2

Part 2

11. What is the decimal representation for the fraction $\frac{1}{3}$? **11.** _____

a. 0.3
b. 0.30
c. $0.\overline{3}$
d. 0.33

12. $5\left(\frac{1}{5} - x\right) =$ ___?___ **12.** _____

a. $5 - x$
b. $1 - 5x$
c. $1 + 5x$
d. $1 - x$

13. Solve the proportion for w. $\frac{2}{3} = \frac{5}{w}$ **13.** _____

a. 1.2
b. 3.3
c. 4
d. 7.5

14. Solve the equation $k = -\frac{3}{4} + \frac{5}{8}$. **14.** _____

a. $-\frac{30}{8}$
b. $-\frac{11}{8}$
c. $-\frac{1}{8}$
d. $\frac{11}{8}$

15. Solve the equation $t = 4\frac{1}{2} \div \frac{3}{4}$. **15.** _____

a. $\frac{8}{3}$
b. $\frac{27}{8}$
c. 5
d. 6

16. In a factory, a worker assembles 20 CD players in 8 hours. Express the ratio as a unit rate. **16.** _____

a. 0.4 players per hour
b. 1.5 players per hour
c. 2.5 players per hour
d. 4 players per hour

17. 40 is what percent of 500? **17.** _____

a. 1.25%
b. 8%
c. 12.5%
d. 80%

18. What is the next term in the sequence $-13, -9, -5, -1, \ldots$? **18.** _____

a. -4
b. -3
c. 3
d. 4

19. Which expression represents the height of the Gateway Arch in St. Louis if it is 75 feet taller than the Washington Monument, which is represented by w? **19.** _____

a. $w - 75$
b. $w + 75$
c. $75w$
d. $75 - w$

20. The formula for the area of a circle is $A = \pi r^2$. What is the area of a circle whose radius is 3 cm? (Use 3.14 for π.) **20.** _____

a. 2.83 cm^2
b. 9.42 cm^2
c. 27 cm^2
d. 28.26 cm^2

Part 3

21. Which fraction is equivalent to a repeating decimal? **21.** _____

a. $\frac{1}{2}$ **b.** $\frac{1}{5}$

c. $\frac{1}{6}$ **d.** $\frac{1}{8}$

22. What is the median of this set of data? {1.5, 2.3, 1.8, 3.3, 2.1} **22.** _____

a. 1.5 **b.** 1.8

c. 2.1 **d.** 2.2

23. Which is greater, $6 \cdot \frac{1}{3}$ or $6 \div \frac{1}{3}$? **23.** _____

a. $6 \cdot \frac{1}{3}$

b. $6 \div \frac{1}{3}$

c. They are equal.

d. It cannot be determined.

24. In the election, 80% of voters in a town voted *for* a new playground. If 2000 people voted for the playground, how many voters were there? **24.** _____

a. 1600 **b.** 4000

c. 2500 **d.** 16,000

25. What is the next term in the sequence $-3, 1, -\frac{1}{3}, \frac{1}{9}, \ldots$? **25.** _____

a. $-\frac{1}{27}$ **b.** $-\frac{1}{3}$

c. $\frac{1}{27}$ **d.** $\frac{1}{3}$

26. Which equation represents the following sentence: The product of w and 12 is 84. **26.** _____

a. $\frac{w}{12} = 84$

b. $w + 12 = 84$

c. $w = 12(84)$

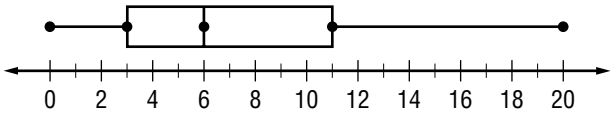
d. $12w = 84$

27. Which pair of numbers are equal? **27.** _____

a. 1^2 and 2^1
b. 3^2 and 2^3
c. 4^2 and 2^4
d. 5^2 and 2^5

28. The box-and-whisker plot shows the number of movies that 32 students saw during the summer. What percent of the students saw 6 or more movies? **28.** _____

a. 8%
b. 16%
c. 25%
d. 50%



29. The stem-and-leaf plot below shows the ages of the workers at the Generations Internet Company. What is the median age of a typical worker? **29.** _____

a. 18
b. 25
c. 35
d. 67

Stem	Leaf
1	8 9 9
2	0 0 1 2 2 3 3 4 5 5 7
3	5 7
4	2 9
5	5 6 6
6	6 7 7 7

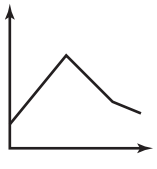
6 | 7 = 67

30. Which is the most appropriate graph for this data table? **30.** _____

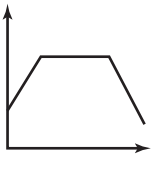
Immigration into the United States

Year	1988	1989	1990	1991	1992	1993
Immigrants (millions)	0.6	1.1	1.5	1.8	1.0	0.9

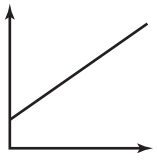
a.



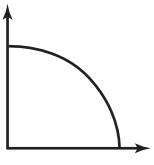
b.



c.



d.



Diagnostic and Placement Test 4

Name _____

Date _____

This test contains 32 multiple-choice questions. Work each problem in the space on this page. Select the best answer. Write the letter of the answer on the blank at the right.

Part 1

1. $\frac{3}{8} \cdot \frac{4}{9} =$? **1.** _____

a. $\frac{1}{6}$ **b.** $\frac{1}{5}$

c. $\frac{1}{3}$ **d.** $\frac{7}{17}$

2. $\frac{5}{4} - \frac{5}{6} =$? **2.** _____

a. 0 **b.** $\frac{5}{24}$

c. $\frac{5}{12}$ **d.** $\frac{25}{12}$

3. What is the decimal representation for $\frac{3}{8}$? **3.** _____

a. 0.037

b. 0.3

c. 0.375

d. 0.38

4. $3\frac{3}{4} \div 2\frac{1}{2} =$? **4.** _____

a. $\frac{2}{3}$

b. $\frac{3}{2}$

c. $\frac{25}{4}$

d. $\frac{25}{3}$

5. $3(5 + x) =$? **5.** _____

a. $8 + x$

b. $15 + x$

c. $15x$

d. $15 + 3x$

6. Solve the proportion for n. $\frac{5}{4} = \frac{n}{12}$ **6.** _____

a. $\frac{17}{4}$

b. $\frac{48}{5}$

c. 15

d. 60

Part 2

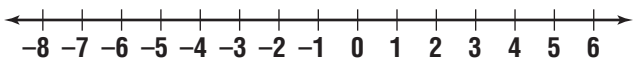
7. Use the number line to solve $-5 + 3$. **7.** _____

a. -8

b. -2

c. 2

d. 8



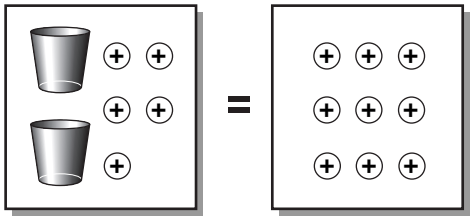
8. Use the counters pictured below to solve the equation $2x + 5 = 9$. **8.** _____

a. 2

b. 4

c. 7

d. 8



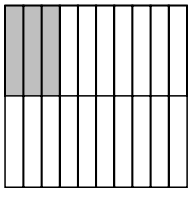
9. What percent of the model is shaded? **9.** _____

a. 3%

b. 15%

c. 25%

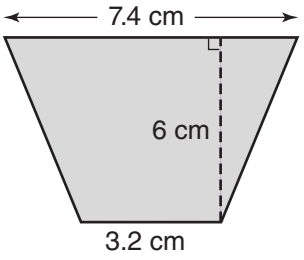
d. 30%



10. What is the area of the trapezoid below with height 6 centimeters and bases 3.2 centimeters and 7.4 centimeters? (The formula for the area of a trapezoid is $A = \frac{1}{2}h(a + b)$.)

10. _____

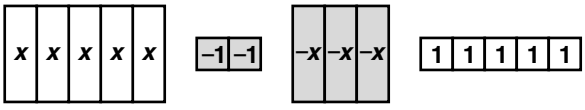
a. 21.44 cm^2
b. 31.8 cm^2
c. 34.04 cm^2
d. 63.44 cm^2



11. Use the algebra tiles below to simplify the polynomial expression $5x - 2 - 3x + 5$.

11. _____

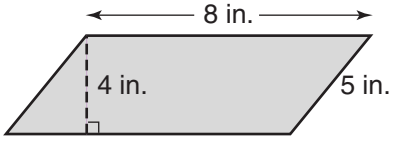
a. $2x - 3$
b. $2x + 3$
c. $8x + 3$
d. $8x + 7$



12. What is the area of the parallelogram below?

12. _____

a. 16 in^2
b. 20 in^2
c. 32 in^2
d. 40 in^2



Part 3

13. What is the next term in the sequence 7, 1, −5, −11 . . . ?

13. _____

a. −17
b. −15
c. 5
d. 17

14. $(-4)(-2)(-3) =$ ___?___ **14.** _____

a. -24
b. -11
c. 5
d. 24

15. $-18 - (-6) =$ ___?___ **15.** _____

a. -24
b. -12
c. 12
d. 24

16. Evaluate $\frac{v^2 - 4 \cdot v - 2}{t + 2}$ when $t = 3$ and $v = 5$. **16.** _____

a. -17
b. $\frac{3}{5}$
c. $\frac{18}{5}$
d. 9

17. $3^4 =$ ___?___ **17.** _____

a. 7
b. 12
c. 64
d. 81

18. Express the ratio 6 inches of rain in 24 hours as a unit rate. **18.** _____

a. $\frac{1}{6}$ inch per hour
b. $\frac{1}{4}$ inch per hour
c. $2\frac{1}{2}$ inches per hour
d. 4 inches per hour

19. Express $\frac{5}{8}$ as a percent. **19.** _____

a. 0.625% **b.** 6.25%
c. 62.5% **d.** 625%

20. 15 is 30% of what number? **20.** _____

a. 0.5 **b.** 4.5
c. 45 **d.** 50

21. Solve the equation $4x - 5 = 7$. **21.** _____

a. $\frac{1}{2}$
b. 3
c. 8
d. 12

22. This is a function table for $f(n) = 2n - 1$. What is the missing value? **22.** _____

n	$2n - 1$	$f(n)$
0	$2(0) - 1$	-1
1	$2(1) - 1$	1
2	$2(2) - 1$	3
3	$2(3) - 1$	

a. -3
b. 4
c. 5
d. 6

Part 4

23. Colin has \$15.00 to spend. He wants to rent a video for \$4.50 and buy a pack of soda for \$5.00 and chips for \$2.50. How much money will he have left? **23.** _____

a. \$3 **b.** \$4
c. \$11 **d.** \$12

24. The Schmidt family will make a 1080 mile round trip on their vacation. Their car gets about 20 miles per gallon of gasoline. Gasoline costs about \$1.50 per gallon. How much will the gasoline cost for their trip? **24.** _____

a. \$30
b. \$36
c. \$54
d. \$81

25. Evaluate $\left(\frac{-3}{5}\right)^2$. **25.** _____

a. $\frac{-9}{25}$ **b.** $\frac{6}{25}$
c. $\frac{9}{25}$ **d.** $\frac{9}{5}$

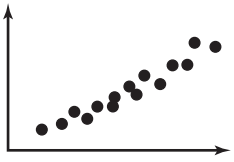
26. Which set contains integers that are less than -1 and greater than -6? **26.** _____

a. $\{-7, -6, -5, -3\}$
b. $\{-5, -4, -2, 0\}$
c. $\{-4, -3, -2, -1\}$
d. $\{-5, -4, -3, -2\}$

27. Which algebraic expression matches the verbal expression, "the amount of money in Tad's account if he starts with s dollars and adds d dollars each week for 12 weeks"? **27.** _____

a. $12s + d$
b. $s + 12d$
c. $12(s + d)$
d. $12ds$

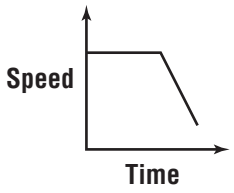
28. Which data set would create a scatter plot like the one shown below? **28.** _____



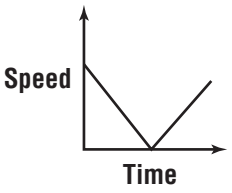
a. height and month of birth
b. hours you train for a race and time you take to finish a race
c. number of people in a household and weekly food cost
d. temperature and day of the week

29. Kristin walks at a steady pace. Then she runs down a hill. Which graph best represents her speed versus her time? **29.** _____

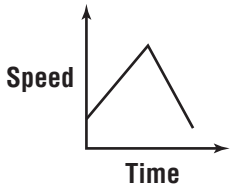
a.



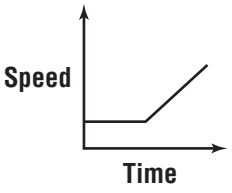
b.



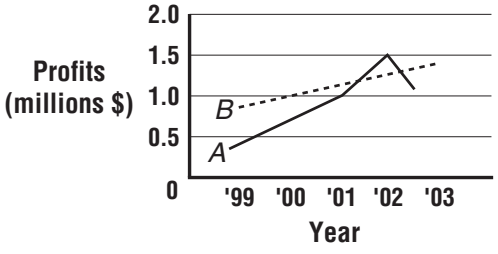
c.



d.

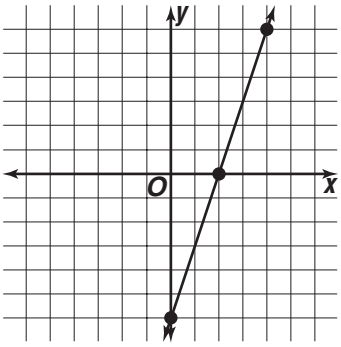


30. On the graph below, the solid line shows Company A's profits. The dashed line shows Company B's profits. In what year are Company A's profits greater than Company B's? **30.** _____



a. 1999
b. 2000
c. 2001
d. 2002

31. Which set of ordered pairs represent points on the line that is graphed below? **31.** _____



a. (0, −6), (0, 2), (6, 4)
b. (0, −6), (2, 0), (4, 6)
c. (−6, 0), (0, 2), (4, 6)
d. (0, 6), (2, 0), (6, 4)

32. Which two ordered pairs are both solutions to the equation $y = -2x - 3$? **32.** _____

a. (0, −3), (1, 5)
b. (2, −1), (−1, −1)
c. (2, −7), (1, 5)
d. (0, −3), (1, −5)

Part 1

1. c

2. b

3. d

4. a

5. c

6. b

7. b

8. d

9. a

10. c

Part 2

11. b

12. c

13. b

14. d

15. d

16. d

17. d

18. a

Part 3

19. a

20. a

21. d

22. c

23. b

24. a

25. d

26. c

27. d

28. c

29. b

30. b

Placement Test 2 – Answer Key

Part 1

1. a
2. d
3. b
4. d
5. b
6. c
7. d
8. c
9. c
10. c

Part 2

11. b
12. c
13. c
14. d
15. c

16. b

17. a

18. d

19. c

20. b

Part 3

21. b

22. c

23. b

24. d

25. c

26. d

27. b

28. b

29. c

30. d

Placement Test 3 – Answer Key

Part 1

1. d
2. b
3. b
4. c
5. b
6. d
7. c
8. c
9. d
10. b

Part 2

11. c
12. b
13. d
14. c
15. d

16. c

17. b

18. c

19. b

20. d

Part 3

21. c

22. c

23. b

24. b

25. a

26. d

27. c

28. d

29. b

30. a

Placement Test 4 – Answer Key

Part 1

1. a
2. c
3. c
4. b
5. d

Part 2

6. c
7. b
8. a
9. b

Part 3

10. b
11. c
12. c
13. a
14. a
15. b
16. b
17. d
18. b

Placement Test 4 – Answer Key

19. c

20. d

21. b

22. c

23. a

24. d

25. c

26. d

27. b

28. c

29. d

30. d

31. b

32. d

Part 4