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innovation in education

CURRICULUM RESOURCES AND PROFESSIONAL DEVELOPMENT BY TEXAS EDUCATORS FOR TEXAS EDUCATORS!

STAAR Mission™
www.staarmission.com

Algebraic Reasoning
TEACHER WRAPAROUND EDITION
$f(x) = 67(0.75)^x$
Gray • Weilmuenster • Hylemon

Performing Math
open-middle performance tasks

Cosenza & Associates, LLC   www.cosenzaassociates.com   800.224.4318
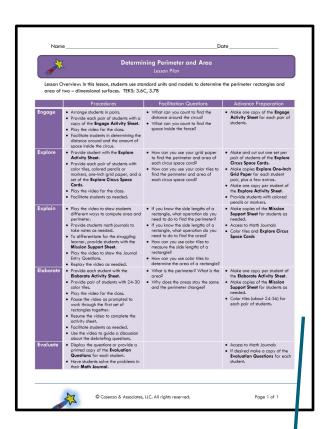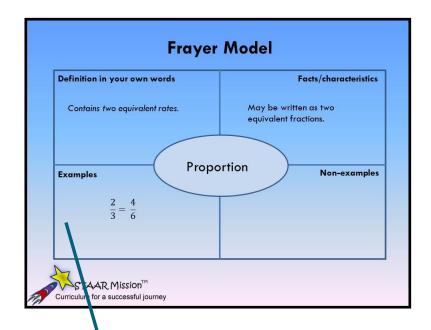
STAAR MISSION: MATHEMATICS SUCCESS

STAAR Mission: Mathematics Success is a set of teacher resources, accessed digitally, designed to help foster student success in mathematics. Each grade or course contains at least 15 rigorous lessons built around the 5E instructional design model, emphasizing procedural fluency through conceptual understanding. Lessons contain a bundle of TEKS for that grade level so that 100% of the TEKS for the grade level, including mathematical process standards, are addressed. Each lesson blends digital and hands-on learning using manipulatives and technology as appropriate to help foster student success.
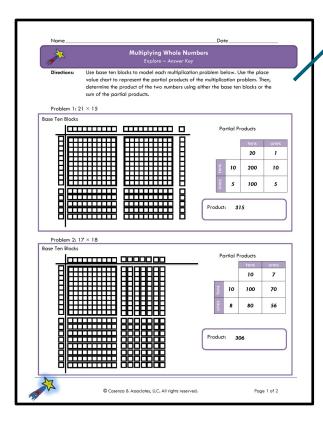
LEARNINGlist.com
A resource review service by and for **educators**

100% TEKS alignment independently verified by Learning List!

Name _____ **Date** _____

Determining Perimeter and Area
Lesson Plan

Lesson Overview: In this lesson, students use standard units and models to determine the perimeter rectangles and area of two – dimensional surfaces. TEKS: 3.6C, 3.7B

	Procedures	Facilitation Questions	Advance Preparation
Engage	• Arrange students in pairs. • Provide each pair of students with a copy of the **Engage Activity Sheet.** • Play the video for the class. • Facilitate students in determining the distance around and the amount of space inside the circus.	• What can you count to find the distance around the circus? • What can you count to find the space inside the fence?	• Make one copy of the **Engage Activity Sheet** for each pair of students.
Explore	• Provide student with the **Explore Activity Sheet.** • Provide each pair of students with color tiles, colored pencils or markers, one-inch grid paper, and a set of the **Explore Circus Space Cards.** • Play the video for the class. • Facilitate students as needed.	• How can you use your grid paper to find the perimeter and area of each circus space card? • How can you use your color tiles to find the perimeter and area of each circus space card?	• Make and cut out one set per pair of students of the **Explore Circus Space Cards.** • Make copies **Explore One-Inch Grid Paper** for each student pair, plus a few extras. • Make one copy per student of the **Explore Activity Sheet.** • Provide students with colored pencils or markers.
Explain	• Play the video to show students different ways to compute area and perimeter. • Provide students math journals to take notes as needed. • To differentiate for the struggling learner, provide students with **Mission Support Sheet.** • Play the video to show the Journal Entry Questions. • Replay the video as needed.	• If you know the side lengths of a rectangle, what operation do you need to do to find the perimeter? • If you know the side lengths of a rectangle, what operation do you need to do to find the area? • How can you use color tiles to measure the side lengths of a rectangle? • How can you use color tiles to determine the area of a rectangle?	• Make copies of the **Mission Support Sheet** for students as needed. • Access to Math Journals • Color tiles and **Explore Circus Space Cards**
Elaborate	• Provide each student with the **Elaborate Activity Sheet.** • Provide pair of students with 24-30 color tiles. • Play the video for the class. • Pause the video as prompted to work through the first set of rectangles together. • Resume the video to complete the activity sheet. • Facilitate students as needed. • Use the video to guide a discussion about the debriefing questions.	• What is the perimeter? What is the area? • Why does the areas stay the same and the perimeter changes?	• Make one copy per student of the **Elaborate Activity Sheet.** • Make copies of the **Mission Support Sheet** for students as needed. • Color tiles (about 24-36) for each pair of students.
Evaluate	• Display the questions or provide a printed copy of the **Evaluation Questions** for each student. • Have students solve the problems in their **Math Journal.**		• Access to Math Journals • If desired make a copy of the **Evaluation Questions** for each student.

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Frayer Model

Definition in your own words	Facts/characteristics
Contains two equivalent rates.	May be written as two equivalent fractions.

Proportion

Examples	Non-examples
$\dfrac{2}{3} = \dfrac{4}{6}$	

STAAR Mission™
Curriculum for a successful journey

Lesson Plan provides teachers with step-by-step directions, higher-order facilitation questions, and hints for advance preparation.

Frayer Models help teachers support students' vocabulary acquisition. These are especially powerful when used in conjunction with a Math Journal or Interactive Math Notebook.

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Multiplying Whole Numbers
Explore — Answer Key

Directions: Use base ten blocks to model each multiplication problem below. Use the place value chart to represent the partial products of the multiplication problem. Then, determine the product of the two numbers using either the base ten blocks or the sum of the partial products.

Problem 1: 21×15

Base Ten Blocks

Partial Products

	tens	ones
	20	1
tens / 10	200	10
ones / 5	100	5

Product: **315**

Problem 2: 17×18

Base Ten Blocks

Partial Products

	tens	ones
	10	7
tens / 10	100	70
ones / 8	80	56

Product: **306**

Hands-on activities are designed around manipulatives, technology, and number patterns in order to support students' sense-making of the mathematics that they are learning.

Videos show students key ideas, provide instructions (such as how to construct a foldable graphic organizer), and make connections among multiple representations.

Ratio, Rate, & Proportion Foldable

- Make a foldable graphic organizer to summarize the relationships between ratio, rates, and proportions.

- Fold a sheet of paper lengthwise (hot-dog fold)

STAAR Mission™
Curriculum for a successful journey

9 Simeon has $13\frac{1}{2}$ cups of punch for the school dance. If he needs to provide 9 servings of punch, what size servings will Simeon donate?

A $4\frac{1}{2}$ cups

B 1 cup

C $1\frac{1}{2}$ cup

D $\frac{1}{2}$ cup

10 Jackson lost $\frac{1}{10}$ of his supply of golf balls the last time he played a round of golf. If Jackson had 120 golf balls before he played, how many does he have now?

Record your answer and fill in the bubbles on the grid below. Be sure to use the correct place value.

Assessment items follow a variety of formats, including STAAR-type multiple choice and griddable response items.

View lesson samples at our website, www.staarmission.com!

Annual, 365-day Pricing Options

365-day Individual Teacher Licenses
Each teacher license gives the teacher access to one grade level or course for one year from the date of purchase. The list price for a one year subscription for one teacher to have access to one grade level or course is $495. **Discounts are available if multiple licenses are purchased at one time (see table).** 365-day licenses are transferrable to different teachers as teaching assignments change.

Number of Individual Teacher Licenses	Discount
1 - 3	List Price
4 - 10	5% discount
11 – 19	10% discount
20 +	15% discount

⇒ **Example:** The district purchases 20 single course licenses; the price would be 20 × $495 = $9,900. A 15% discount would be applied, making the final price, $8,415.

If a teacher teaches more than one course/grade each additional course/grade is $250 per year:

⇒ **Example:** Teacher A teaches Algebra 1 and Geometry and you only need one license; the price would be $495 + $250.

365-day Campus Site Licenses by Grade Band
Each teacher on the campus receives access to one or more grade levels or courses for one year from the date of purchase.

Grade Band	365-day Campus Site License
K-2	$2495
3-5	$3495
6-8	$3995
HS (Alg 1, Geom, Alg 2)	$3995

Discounts and Specialized Bundling
For elementary campuses purchasing K-2 and 3-5 site licenses together, we offer a $1500 discount on the bundle. Final price on K-5 site license bundle is $4490.

K-4, 5-6, and 7-8 bundles are also available.
- K-4: $3795
- 5-6: $2495
- 7-8: $2663

Middle school campuses with Algebra 1 courses receive Algebra 1 access at no additional charge.

Summer Only Pricing Options

Summer-only pricing is available for schools or districts who wish to use STAAR Mission: Mathematics Success exclusively for their summer instructional program. Summer-only licenses are valid from May 15 to June 30 or the last instructional day of your summer program, whichever is later.

Individual Teacher Licenses
Each teacher license gives the teacher access to one grade level or course from May 15 to June 30 (or last day of summer school) of the school year for which access was purchased. The list price for an individual summer only teacher license is $295. No discounts apply.

Home Campus Site License
Individual campuses that host summer school for their own students may select a campus site license covering all grade levels or high school courses on that campus. Each campus site license is $2495 for summer-only access.

District Site License
District-level site licenses, typically used for when districts pull students from multiple home campuses onto one location for summer school, are available starting at $14.95 per student with a minimum of 60 students. Please estimate your anticipated student enrollment. Licenses will cover grades for which students will be enrolled. Discounts are applied to three tiers of student enrollment.

Number of Students	Price per Student
1 – 99	$14.95
100 – 399	$14.45
400 +	$13.95

⇒ **Example:** The district anticipates 125 students in Grade 3, 140 students in Grade 4, and 250 students in Grade 5. Total anticipated student enrollment is 125 + 140 + 250 = 515 students. 515 students × $13.95 per student = $7184.25.

STAAR MISSION: MATHEMATICS SUCCESS
PRICING SUMMARY

Type of License	Unit	Cost Per Unit
365-Day Licenses		
Individual Teacher License, one grade	1 teacher	$495
Course Add-on for Existing Teacher License	1 teacher	$250
Campus License for Grades K-2	1 campus	$2495
Campus License for Grades 3-5	1 campus	$3495
Campus License for Grades 6-8	1 campus	$3995
Campus License for Grades 9-12	1 campus	$3995
District License		Call for quote
Summer School Only Licenses		
Individual Teacher License, one grade	1 teacher	$295
Home Campus Site License	1 campus	$2495
District Site License	1 student	$14.95 (per student) for 1-99 students
		$14.45 (per student) for 100-399 students
		$13.95 (per student) for 400+ students

I love the program! I have used the evaluate sections as pretests for my students. That has been awesome in helping me group them. It also helps me show progress. So I am keeping those scores and comparing to their post test score, once we finish the lesson.

It is an excellent resource. The students were engaged and enjoyed the videos and pausing to work out the problems. I was in a classroom with a dry erase board and it was excellent to have the students work out problems right on the videos.

I really have loved going through the course! This is one of the best I have seen in online resources. I appreciate the quality and thought you put into your work to make it REAL and make connections!
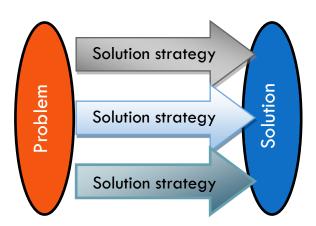
Performing Math
open-middle performance tasks

Fall 2017: available for Grades 3-8 and Algebra 1

Performing Math™ is a set of performance tasks that teachers can use to enhance students' understanding of mathematical concepts and skills.

- Each task focuses on one content TEKS/SE. As well, each task includes additional content TEKS that students may use as they solve the problem. Each tasks includes mathematical process TEKS as they are addressed in the task.

- We designed **Performing Math™** to improve student performance as they integrate mathematical concepts and skills.

There are several types of mathematical tasks.

- **Open-ended** tasks are tasks that have a defined beginning (the problem is set) but multiple solutions and multiple solution strategies.

- **Open-middle** tasks are tasks that have a defined beginning (the problem is set) and a defined solution (the answer or solution is set), but multiple pathways in between to arrive at the solution.
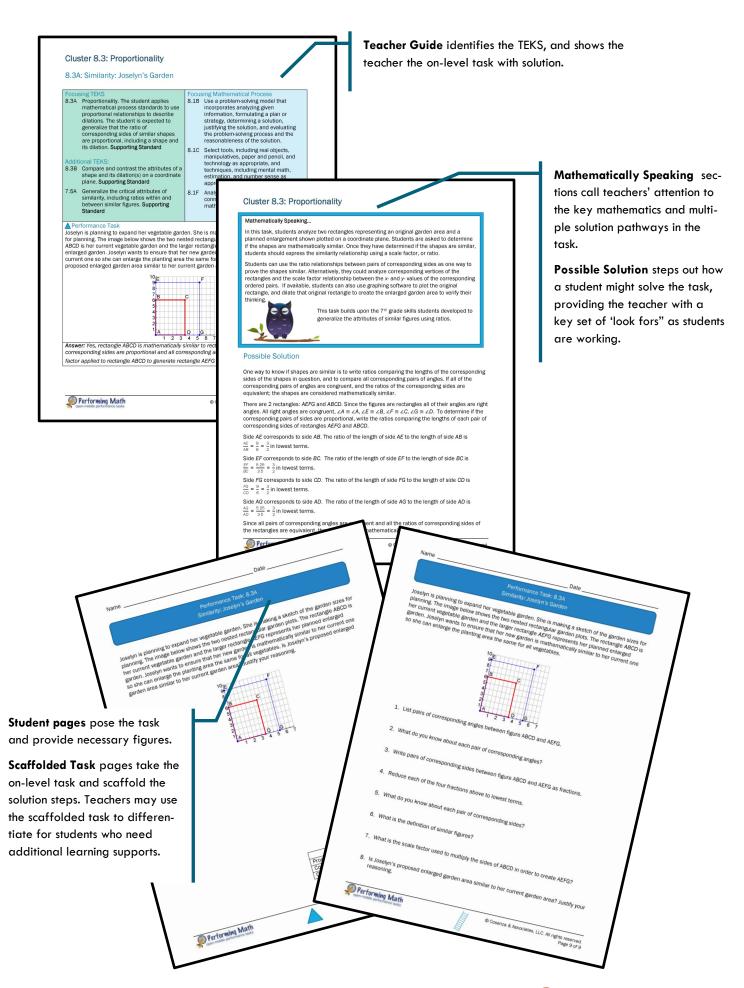
Each task includes:
- Focusing content TEKS/SE
- Focusing mathematical process TEKS/SE
- Supporting TEKS/SE as appropriate
- Student sample solution
- On-level task
- Scaffolded task to support struggling learners
- Simplified task to differentiate for below-grade-level students
- Enriched task to differentiate for above-grade-level students

Tasks are provided for every TEKS/SE in the grade level. Performing Math™ is sold as a 1-year campus or district license for one or more grade levels. Pricing is based on the number of students enrolled on that campus or district in that particular grade level(s). The campus or district license provides access for all teachers on the campus or district to use the grade levels that were purchased. Campus or district licenses must be renewed annually for teachers to continue using the performance tasks.

Number of Students	Price Per Student
1 - 500	$3.50
501 - 1000	$3.00
1001 - 2000	$2.50
Greater than 2000	$2.00

Problem → Solution strategy → Solution strategy → Solution strategy → Solution

Scan this QR code to see a sample *Performing Math™* learning task.

Teacher Guide identifies the TEKS, and shows the teacher the on-level task with solution.

Mathematically Speaking sections call teachers' attention to the key mathematics and multiple solution pathways in the task.

Possible Solution steps out how a student might solve the task, providing the teacher with a key set of 'look fors' as students are working.

Student pages pose the task and provide necessary figures.

Scaffolded Task pages take the on-level task and scaffold the solution steps. Teachers may use the scaffolded task to differentiate for students who need additional learning supports.

Cluster 8.3: Proportionality

8.3A: Similarity: Joselyn's Garden

Focusing TEKS
8.3A Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation. **Supporting Standard**

Additional TEKS:
8.3B Compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane. **Supporting Standard**
7.5A Generalize the critical attributes of similarity, including ratios within and between similar figures. **Supporting Standard**

Focusing Mathematical Process
8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.
8.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate
8.1F Analyze connect math

⚠ Performance Task
Joselyn is planning to expand her vegetable garden. She is ma for planning. The image below shows the two nested rectangu ABCD is her current vegetable garden and the larger rectangle enlarged garden. Joselyn wants to ensure that her new garden current one so she can enlarge the planting area the same for proposed enlarged garden area similar to her current garden

Answer: Yes, rectangle ABCD is mathematically similar to rect corresponding sides are proportional and all corresponding a factor applied to rectangle ABCD to generate rectangle AEFG

Cluster 8.3: Proportionality

Mathematically Speaking...

In this task, students analyze two rectangles representing an original garden area and a planned enlargement shown plotted on a coordinate plane. Students are asked to determine if the shapes are mathematically similar. Once they have determined if the shapes are similar, students should express the similarity relationship using a scale factor, or ratio.

Students can use the ratio relationships between pairs of corresponding sides as one way to prove the shapes similar. Alternatively, they could analyze corresponding vertices of the rectangles and the scale factor relationship between the x- and y- values of the corresponding ordered pairs. If available, students can also use graphing software to plot the original rectangle, and dilate that original rectangle to create the enlarged garden area to verify their thinking.

This task builds upon the 7th grade skills students developed to generalize the attributes of similar figures using ratios.

Possible Solution

One way to know if shapes are similar is to write ratios comparing the lengths of the corresponding sides of the shapes in question, and to compare all corresponding pairs of angles. If all of the corresponding pairs of angles are congruent, and the ratios of the corresponding sides are equivalent; the shapes are considered mathematically similar.

There are 2 rectangles: AEFG and ABCD. Since the figures are rectangles all of their angles are right angles. All right angles are congruent, $\angle A \cong \angle A$, $\angle E \cong \angle B$, $\angle F \cong \angle C$, $\angle G \cong \angle D$. To determine if the corresponding pairs of sides are proportional, write the ratios comparing the lengths of each pair of corresponding sides of rectangles AEFG and ABCD.

Side AE corresponds to side AB. The ratio of the length of side AE to the length of side AB is $\frac{AE}{AB} = \frac{9}{6} = \frac{3}{2}$ in lowest terms.

Side EF corresponds to side BC. The ratio of the length of side EF to the length of side BC is $\frac{EF}{BC} = \frac{5.25}{3.5} = \frac{3}{2}$ in lowest terms.

Side FG corresponds to side CD. The ratio of the length of side FG to the length of side CD is $\frac{FG}{CD} = \frac{9}{6} = \frac{3}{2}$ in lowest terms.

Side AG corresponds to side AD. The ratio of the length of side AG to the length of side AD is $\frac{AG}{AD} = \frac{5.25}{3.5} = \frac{3}{2}$ in lowest terms.

Since all pairs of corresponding angles are congruent and all the ratios of corresponding sides of the rectangles are equivalent, the shapes are mathematically

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Performance Task: 8.3A
Similarity: Joselyn's Garden

Joselyn is planning to expand her vegetable garden. She is making a sketch of the garden sizes for planning. The image below shows the two nested rectangular garden plots. The rectangle ABCD is her current vegetable garden and the larger rectangle AEFG represents her planned enlarged garden. Joselyn wants to ensure that her new garden is mathematically similar to her current one so she can enlarge the planting area the same for all vegetables. Is Joselyn's proposed enlarged garden area similar to her current garden area? Justify your reasoning.

Performance Task: 8.3A
Similarity: Joselyn's Garden

Joselyn is planning to expand her vegetable garden. She is making a sketch of the garden sizes for planning. The image below shows the two nested rectangular garden plots. The rectangle ABCD is her current vegetable garden and the larger rectangle AEFG represents her planned enlarged garden. Joselyn wants to ensure that her new garden is mathematically similar to her current one so she can enlarge the planting area the same for all vegetables.

1. List pairs of corresponding angles between figure ABCD and AEFG.

2. What do you know about each pair of corresponding angles?

3. Write pairs of corresponding sides between figure ABCD and AEFG as fractions.

4. Reduce each of the four fractions above to lowest terms.

5. What do you know about each pair of corresponding sides?

6. What is the definition of similar figures?

7. What is the scale factor used to multiply the sides of ABCD in order to create AEFG?

8. Is Joselyn's proposed enlarged garden area similar to her current garden area? Justify your reasoning.

ALGEBRAIC REASONING

TEACHER WRAPAROUND EDITION

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Algebraic Reasoning

$f(x) = 67(0.75)^x$

Gray • Weilmuenster • Hylemon

Algebraic Reasoning is a textbook written by Texas authors to help teachers address the TEKS for the new Algebraic Reasoning high school mathematics course, created by the Texas State Board of Education in 2014.

Consisting of 8 chapters, *Algebraic Reasoning* contains lessons built on an inquiry-based, 5E instructional design.

- Students begin each lesson with a brief Engage activity that ties to prior knowledge or activates mathematics that students will need in that lesson.

- Next, students explore the concept using technology, pencil-and-paper, or hands-on manipulatives.

- Important mathematical ideas are formalized in the Explain section, including detailed, stepped-out examples and "You Try It!" problems so that students can immediately check their understanding.

- Teachers are provided with applications and extensions in the Teacher Wraparound Edition, and students demonstrate their knowledge through practice problems at the end of each section.

- Developed by Texas Educators
- Developed specifically for the Algebraic Reasoning TEKS
- Bridges students from Algebra 1 to Algebra 2
- Exploration activities
- Explanation videos
- Practice videos
- Teacher question bank
- Chapter and mid-chapter reviews
- Chapter and mid-chapter tests
- Available in both print and electronic formats
- ELPS support
- Differentiation support
- Technology integration
- Questioning strategies
- Additional examples in the TWE

Component	ISBN	Price
Student Edition, hardback	978-0-9886796-9-6	$115
Student Edition, digital (licenses through 2024-25 School Year)	978-0-9972265-1-5	$95
Student Edition bundle, hardback and digital	978-0-9972265-5-3	$165
Teacher Edition, hardback	978-0-9972265-0-8	$125

Gray, Weilmuenster, & Hylemon's "Algebraic Reasoning" textbook is the ONLY textbook adopted by the Texas State Board of Education for use in the Algebraic Reasoning high school mathematics course.

3.1 Generating Inverses of Functions

FOCUSING QUESTION What is the inverse of a function?

LEARNING OUTCOMES

- I can compare and contrast the key attributes of a function and its inverse when I have the function as a table, graph, or written symbolically.
- I can represent the domain and range of a linear function in a variety of ways, including interval notation, inequalities, and set builder notation.
- I can use and select tools, including graphing technology, paper and pencil, and manipulatives like patty paper, to solve problems.
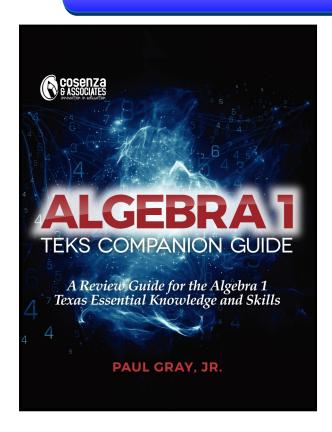
ENGAGE

Dylan, a computer animator, needs to reflect the figure shown as a part of an animation process.

What would be the coordinates of each vertex in the new figure if Dylan reflected the original figure across the y-axis? The x-axis?

Across the y-axis: A'(9, 4) B'(7, 8) C'(4, 8) D'(5, 6) E'(2, 3)
Across the x-axis: A'(-9, -4) B'(-7, -8) C'(-4, -8) D'(-5, -6) E'(-2, -3)

EXPLORE

The distance required to stop a moving vehicle is a function of the speed of the vehicle. According to the Texas Driver Handbook, the distance required to stop a vehicle moving at a given speed, on dry pavement with good tires, is shown in the table on page 261.

3.1 • GENERATING INVERSES OF FUNCTIONS   263

INTEGRATE TECHNOLOGY
Use the list editor of a graphing calculator to enter the x-coordinates and y-coordinates of the figure into two separate lists. Use list operations to show how changing the sign of one set of coordinates reflects the figure across either the x-axis or y-axis.

TEKS
AR.3B Compare and contrast the key attributes of a function and its inverse when it exists, including domain, range, maxima, minima, and intercepts, tabularly, graphically, and symbolically.

AR.7A Represent domain and range of a function using interval notation, inequalities, and set (builder) notation.

MATHEMATICAL PROCESS SPOTLIGHT
AR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

ELPS
4F Use visual and contextual support and support from peers and teachers to read grade-appropriate content area text, enhance and confirm understanding, and develop vocabulary, grasp of language structures, and background knowledge needed to comprehend increasingly challenging language

VOCABULARY
function, inverse, domain, range, maximum, minimum, x-intercept, y-intercept, line of reflection

MATERIALS
- graphing calculator
- graph paper
- patty paper

EXPLAIN

A function is a relationship between an independent variable and a dependent variable. The values of the independent variable are called the domain of the function and the values of the dependent variable are called the range of the function.

But what happens if the relationship is reversed and the range values become the input while the domain values become the output? That situation is called an **inverse** relation. The range of the original function becomes the domain of the inverse relation, and the domain of the original function becomes the range of the inverse relation.

You can generate inverses of functions using tables, graphs, or equations.

INVERSES IN TABLES
Fahrenheit and Celsius are two different units that are used to measure temperature. The tables below show some ordered pairs that represent equivalent temperatures in each scale. The left-hand table assumes that you know the temperature in degrees Celsius (i.e., Celsius temperature is the independent variable) and you want to determine the dependent temperature in degrees Fahrenheit (i.e., Fahrenheit temperature is the dependent variable). The right-hand table assumes that you know the temperature in degrees Fahrenheit (i.e., Fahrenheit temperature is the independent variable) and you want to determine the temperature in degrees Celsius (i.e., Celsius temperature is the dependent variable).

Watch Explain and You Try It Videos or click here.

Celsius to Fahrenheit, $F(x)$

TEMPERATURE IN CELSIUS	TEMPERATURE IN FAHRENHEIT
$-17\frac{7}{9}$	0
-10	14
0	32
10	50
20	68
30	86

Fahrenheit to Celsius, $C(x)$

TEMPERATURE IN FAHRENHEIT	TEMPERATURE IN CELSIUS
0	$-17\frac{7}{9}$
14	-10
32	0
50	10
68	20
86	30

266   CHAPTER 3: INVERSES OF FUNCTIONS

STEP 1 Determine the inverse by switching the domain and range values of the original function.

x	y
-2	$\frac{1}{9}$
-1	$\frac{1}{3}$
0	1
1	3
2	9

x	y
$\frac{1}{9}$	-2
$\frac{1}{3}$	-1
1	0
3	1
9	2

STEP 2 Evaluate the domain and range of the inverse to determine whether or not the inverse is a function.

Each domain value in the inverse's table results in a single range value in the inverse's table. The relationship between the domain and range is related to the relationship of the original exponential function's domain and range is related to the relationship of the domain and range of the inverse. Therefore, it is reasonable to conclude that the inverse is also a function.

YOU TRY IT! #1

Generate the inverse of the absolute value function represented in the table to the right. If the inverse is a function, write the equation of the inverse function. If the inverse is not a function, explain why not.
See margin.

x	y
-1	3
0	3
1	0
2	-3
3	0
	3

3: INVERSES OF FUNCTIONS

ALGEBRA 1
TEKS COMPANION GUIDE

A Review Guide for the Algebra 1 Texas Essential Knowledge and Skills

PAUL GRAY, JR.

The *Algebra 1 EOC Companion Guide* is designed to accompany the Gray, Weilmuenster, & Hylemon textbook, *Algebraic Reasoning*, which was **the only textbook** adopted by the Texas State Board of Education for use with the Algebraic Reasoning high school mathematics course.

For each section where it's appropriate, the *Algebra 1 EOC Companion Guide* provides an additional activity for students to use to review their Algebra 1 skills. The activity consists of three parts:

- A **Tell Me More** section that provides a brief summary of the content.
- Stepped out **Examples** that show students how to solve problems related to those that they will encounter on the Algebra 1 EOC.
- **Practice** problems where students answer questions like those they will encounter on the Algebra 1 EOC.

All TEKS from the Algebra 1 course are addressed in this companion guide to the *Algebraic Reasoning* textbook!
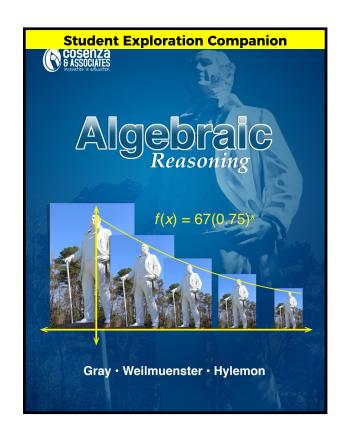
Student Edition ISBN: 978-0-9972265-7-7
Teacher Manual ISBN: 978-0-9972265-8-4

The *Algebra 1 EOC Companion Guide* is a printed consumable workbook.

20 – 30 student books: 20.99 each
31 – 60 student books: 17.99 each
61+ student books: 14.99 each

Minimum order of 20 books.
Teacher manual included with purchase.

The *Algebraic Reasoning Student Exploration Companion* is designed to accompany the Gray, Weilmuenster, & Hylemon textbook, *Algebraic Reasoning*, which was **the only textbook** adopted by the Texas State Board of Education for use with the Algebraic Reasoning high school mathematics course.
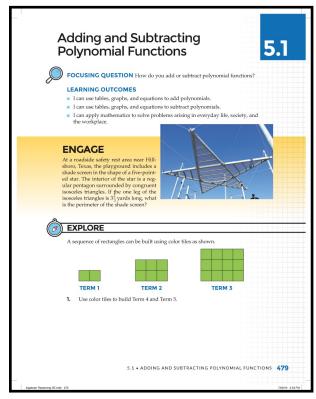
This student consumable interactive workbook contains all of the Engage and Explore sections along with blank Notes pages.

Students can use the *Student Exploration Companion* as an interactive notebook, recording their data and numerical analysis from the Explore directly on the page. Students can then create graphic organizers to summarize their learning in the Notes section. Students may also choose to place foldable graphic organizers directly in their *Student Exploration Companion*.

The *Student Exploration Companion* is a printed consumable workbook.

Class set of 30 books: $229
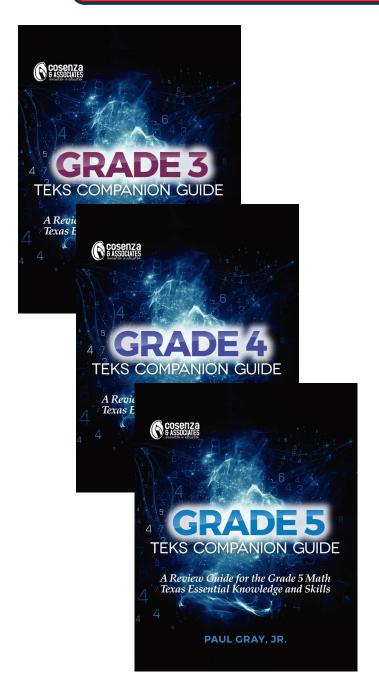
The *TEKS Companion Guide* series is a set of consumable, interactive student books that provide focused mini-lessons with practice problems for each TEKS/SE at that grade level or course.

Mini-lessons consist of three parts:

- A **Tell Me More** section that provides a brief summary of the content.
- Stepped out **Examples** that show students how to solve problems related to those that they will encounter on STAAR assessments for that particular grade level.
- **Practice** problems are a combination of skills practice, short-answer word problems that include griddable responses when practical, and multiple-choice questions formatted similarly to STAAR items.
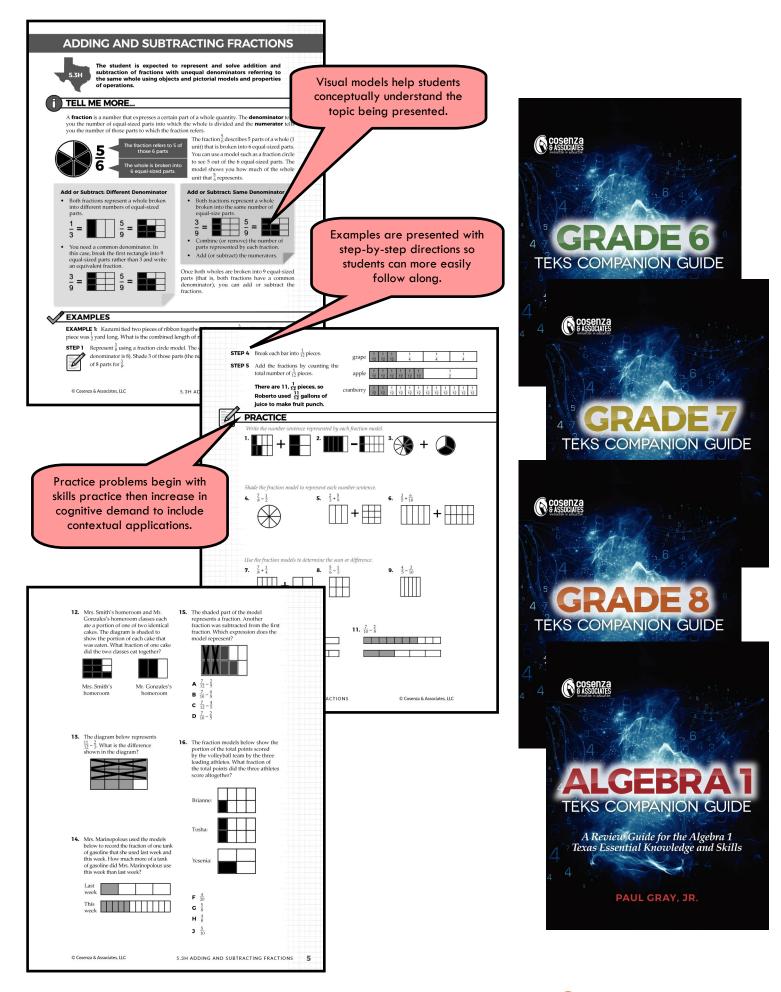
All TEKS from the grade level, regardless of whether or not they are tested, are included in each *TEKS Companion Guide*.

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20 – 30 student books: 20.99 each
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Teacher manual included with purchase.

Visual models help students conceptually understand the topic being presented.

Examples are presented with step-by-step directions so students can more easily follow along.

Practice problems begin with skills practice then increase in cognitive demand to include contextual applications.

GRADE 6
TEKS COMPANION GUIDE

GRADE 7
TEKS COMPANION GUIDE

GRADE 8
TEKS COMPANION GUIDE

ALGEBRA 1
TEKS COMPANION GUIDE

A Review Guide for the Algebra 1 Texas Essential Knowledge and Skills

PAUL GRAY, JR.

Professional Development

Cosenza & Associates, LLC, provides professional development for K-12 mathematics and K-12 advanced academics.

Advanced Academics

Cosenza and Associates, LLC, provides a 30 hour Gifted and Talented initial training that supports the required strands, nature and needs, assessment/identification and includes 18 hours of curriculum for the gifted. The curriculum part of the thirty hours emphasizes differentiation for the advanced student, creativity, and depth and complexity. The Texas Performance Standards Project (TPSP) is addressed and introduced in the initial training. Cosenza and Associates, LLC, also provides a more in-depth look at the TPSP, which includes implementation, research, and production of advanced products and performances.

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⇒ Day 1-Exploring the Nature and Needs of Gifted Students (6 hours)
   (Service Options and Legal Updates are included for Administrators and Counselors)
⇒ Day 2-Assessing and Identifying Gifted Students (6 hours)
⇒ Day 3-Differentiating for the Gifted Student (6 hours)
⇒ Day 4-Using the Elements of Depth and Complexity to Increase the Rigor for the Gifted Student (6 hours)
⇒ Day 5-Developing Creativity in all Students including the Gifted (6 hours)

Options for 6-Hour Required Annual Update

⇒ Understanding the Social and Emotional Needs of the Gifted Student (6 hours)
⇒ Learn All About the Texas Performance Standards Project (6 hours)
⇒ Review for the TExES Supplemental Certification Test (6 hours)

JUDY O'NEAL

DIRECTOR OF ADVANCED ACADEMICS

Ms. O'Neal leads our Advanced Academics team and is recognized across the state as an expert in helping teachers better meet the needs of gifted and talented students.

DR. PAUL GRAY

CHIEF CURRICULUM OFFICER

Dr. Gray leads our curriculum and professional development team. He is the lead author of the *Algebraic Reasoning* textbook and has served on numerous statewide and national boards and committees.

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Gary Cosenza and Dr. Paul Gray lead the mathematics professional development team. Mr. Cosenza has extensive experience developing and leading statewide initiatives for teacher learning. Dr. Gray has statewide and national experience as a consultant, professional developer, and author.

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Formative Assessment for Mathematics
In the *Formative Assessment* workshop, teachers will examine ways to use performance assessments as an instructional task for both determining what students know and structuring specific, corrective feedback for students.

Technology in the Mathematics Classroom
Technology workshops from Cosenza & Associates, LLC, focus on using particular technology tools, such as graphing calculators, in service of learning content as described in the mathematics TEKS. Technology, content, and mathematical processes are intertwined so that teachers understand how these three ideas combine for powerful student learning.

Differentiation for the Gifted Math Student

Teachers will learn about general ways to differentiate their instruction for gifted and talented students and then explore ways in which these strategies can be specifically applied to mathematics content. This session can focus on either elementary or secondary teachers.

Algebraic Thinking: Secondary Mathematics
Functions are the backbone of an algebra program. Algebraic thinking begins in the elementary classroom and is sharpened in middle school before students begin a formalized study of algebra in high school. Teachers will follow the vertical development of linear, exponential, and quadratic functions.

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