Third Edition

# TRANSMATH®

Creating a **new** path to algebra.







# A Unique Approach to Algebra Readiness **What is** *TransMath?*

Do you have middle school students who have always struggled with math? Year after year, they fall behind their peers? Does the average core program provide what they need to succeed?

### Is it time for a change?

*TransMath* Third Edition is different. While *TransMath* incorporates the components found in every prealgebra program, it differs from the average cores because it is **designed to address the needs of struggling math students** and teachers who serve them.

With its unique instructional approach and robust offering of differentiation tools, *TransMath* delivers rigorous, standards-based instruction in prealgebra while also addressing the **foundational skills needed to fill knowledge gaps**.

TransMath is an intensive solution for your students who need more than the average core to achieve the same goal as their peers—successful entry into Algebra 1.



### Standards-Based Instruction

Unlike other math curricula, *TransMath* scaffolds standards instruction to meet the needs of students below grade-level. To fill foundational gaps, teachers first focus on the mastery of prerequisite skills. As instruction increases in complexity and rigor, students have the background knowledge and instructional momentum to successfully master each standard.

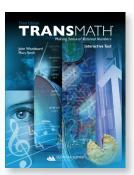
The chart on the right shows the sequence of skills needed to master an Expressions and Equations standard. Each unit topic in *TransMath* Level 3 builds upon the last until instruction shifts directly to mastering the grade-level standards.

### **TransMath:** Meeting Student Needs

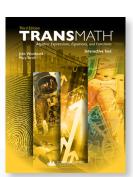
Some of your students may need a more intensive scope and sequence than what is covered in *TransMath* Level 3 prealgebra. Levels 1 and 2 dig deeper into the fundamentals of mathematics and accelerate students toward grade level. No matter where your middle school students are, *TransMath* takes them where they need to be.



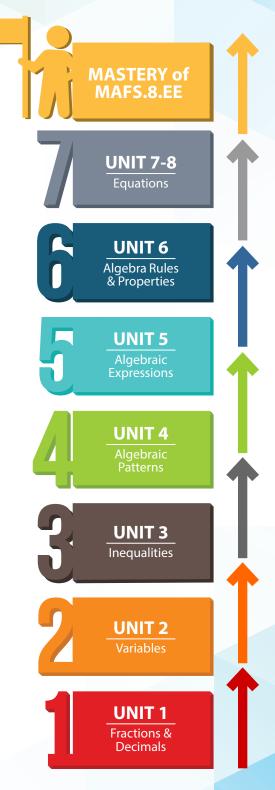
Level 1



Level 2



Level 3



Expressions & Equations Standards:
Progression to Mastery in TransMath Level 3

### Designed to be Different:

### Why TransMath Works

Most students who struggle in average math cores experience difficulties in two key areas: foundational skills and conceptual development.

**Foundational skills** and **conceptual development** are essential for success in prealgebra and any pre-existing instructional gaps in these areas will only grow more severe if not addressed. Most average math cores assume these skills are mastered, but *TransMath* goes the extra step to ensure students have these skills before moving forward.

TransMath's dual-topic approach separates each day's lesson into two crucial instructional topics:

Building Number Concepts and Problem Solving.

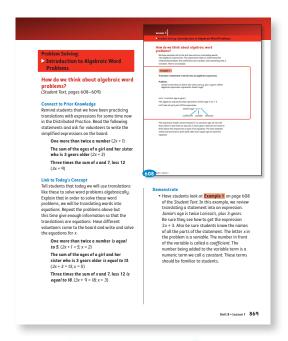
This approach avoids the risks of cognitive overload that many students experience from dense, singularly focused, daily instruction. The dual-topic approach in each lesson deconstructs learning into smaller, achievable components and engages students with two distinct topics and instructional formats.

### **Dual-Topic Approach**

**Building Number Concepts:** This topic focuses on math concepts and foundational skills. Guided by explicit instruction, teachers use visual models and digital manipulatives to teach abstract math concepts by demonstrating how they relate to real-world, concrete concepts.



**Problem Solving:** This topic focuses on applying previously learned concepts and developing the critical-thinking skills needed to solve multistep, complex math problems. Alternating between teacher modeling, independent work, and interactive small groups, students learn, practice, and master rigorous, grade-level skills and standards.

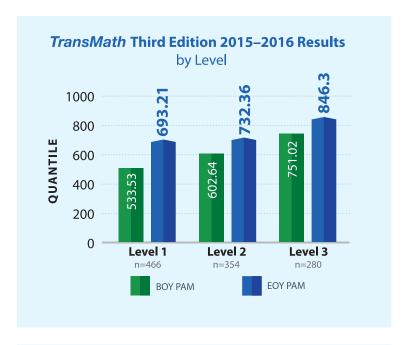


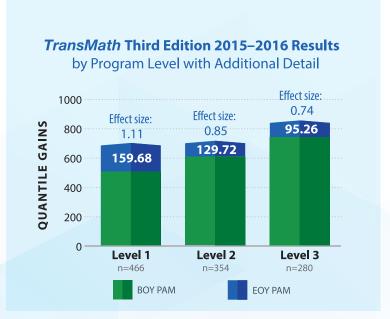


### Evidence of Effectiveness:

### **TransMath Gets Results**

TransMath is designed for students who consistently struggle with mathematics and need more than the average core. It is critical that these students make significant gains to close the achievement gap and excel at grade level. With TransMath's dual-topic approach, students are making multiyear gains in one school year. Year after year, TransMath is changing lives and making a difference.







Quantile® score gains show more than three grade levels of growth in a single school year. *TransMath* makes the difference.

### **Instruction at a Glance:** Let's take a Look

Logical, consistent lesson design keeps students moving toward conceptual understanding and mastery.



### **DUAL TOPICS** avoid cognitive overload.

#### **Building Number Concepts:**

#### > Simplifying Expressions by **Combining Like Terms**

Students learn to simplify algebraic expressions. This means combining as many terms as possible. To simplify expressions, we combine variable terms with variable terms and number terms with number terms. Students also represent word problems with algebraic expressions.

#### Objective

Students will simplify algebraic expressions by combining like terms.

#### **Problem Solving:**

#### > Surface Area of Pyramids

Students learn how to find the surface area of regular pyramids. To do this, they find the area of the base and add it to the area of the faces. Students see how a coefficient represents the number of faces of a pyramid to apply the area formula.

#### Objective

Students will find the surface area of different kinds of regular pyramids.

**ASK** questions help teachers guide discussions that assess understanding.

#### Ask:

#### How can these objects be described?

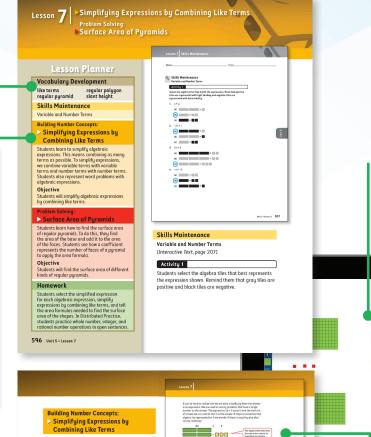
#### Listen for:

• A description of the quantity of each shape, such as two triangles, three circles, and three squares.

Explain that even though we see eight shapes all together, we tend to sort them into like shapes.

### **ENGAGEMENT STRATEGIES**

provide ongoing, informal assessment in every lesson.



How do we simplify expressions? (Student Text, pages 419–421)

Connect to Prior Knowledge
Begin by drawing these familiar two-dimensional shapes on the board or overhead:

### 

#### How can these objects be described? Listen for:

A description of the quantity of each shape such as two triangles, three circles, and three squares.

Explain that even though we see eight shapes all together, we tend to sort them into like shapes

#### Link to Today's Concept In today's lesson, we group like terms in algebraic expressions as we

Engagement Strategy: Teacher Modeling Demonstrate how to simplify expressions in the following way:

- Have students turn to page 419 of the Now suberts: turn to page 4140 in the Student Text. Explain that simplifying an expression means to combine variable terms with other variable terms (if the terms have the same variable; e.g., all 33, and number terms with other number terms. Point out that we cannot combine unlike terms.
- Distribute algebra tiles and have students model the expression 2x + 3x + 2 + 1 in Example 1. Once students have the tiles

# on their desks, ask them what terms can be combined. Listen for a discussion about grouping the green rectangles, or variable terms, together and grouping the yellow squares, or number terms, together. Point out how easy it is to see what can be combined when we use algebra tiles. The **like terms** look alike.

- Now have students combine the like terms and write the simplified expression. Be sure they have five green rectangles together on the left and three yellow squares on the right. The simplified expression is 5x + 3.
- Point out that this is as simplified as the answer gets. We are not used to seeing this because answers to problems are usually single numbers. But when we start working with algebraic expressions, a simplified expression can sometimes be the answer.

Unit 5 - Lesson 7 597

### **MANIPULATIVES**

**DIGITAL** 

provide interactive online models.

### **VISUAL MODELS** illustrate difficult

concepts.

### **POWER CONCEPTS**

focus instruction.



**SKILL APPLICATION** provides immediate opportunity for students to practice what they learned.

**WATCH FOR** questions guide teachers in assessing student understanding.

#### Watch for:

- Can students correctly simplify the side of the equation they are given?
- Can students come up with a different, yet equivalent, expression to write on the other side?
- Do students know to check their work at the end to be sure the two sides are equal?

### REINFORCE UNDERSTANDING

with online video tutorials.



#### Reinforce Understanding

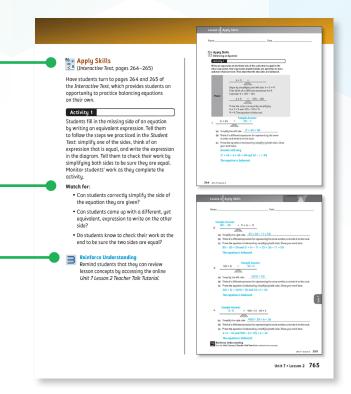
Remind students that they can review lesson concepts by accessing the online *Unit 7 Lesson 2 Teacher Talk Tutorial*.

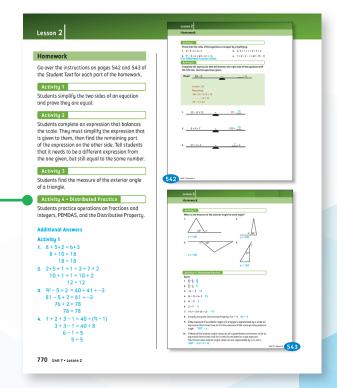
## **DISTRIBUTED PRACTICE** in every lesson provides continued practice of

previously learned skills.

#### Activity 4 • Distributed Practice

Students practice operations on fractions and integers, PEMDAS, and the Distributive Property.





### Differentiated, Interactive, and Extended Learning:

### **The Classroom in Action**

*TransMath* units are built for differentiation. Structured in 10 or 15 lessons, units are designed for 50- to 60-minute blocks per day with designated times for differentiation. With a robust selection of activities and online tools, *TransMath* gives teachers the time, guidance, and resources to meet the needs of each student and ensures that students master the skills and standards needed to be algebra ready.

Let's take a look at the classroom.





intial instruction for each dual-topic lesson in a downloadable presentation. These presentations provide another visual model to enhance daily instruction. Using a PowerPoint format enables teachers to customize instruction with additional details, cool images, outside sources, new activities, and more to suit their students' needs.

#### **TEACHER TALK TUTORIALS**

are narrated videos and animations that introduce and develop the initial instruction for each dual-topic lesson. Tutorials benefit teachers by providing an audio and visual model of the day's instruction. Students benefit by receiving 24/7 access to revisit, refresh, and reinforce the skills and standards taught in class.



**UNIT OPENERS** are written specifically to engage and motivate students at the start of each unit while building background knowledge around the theme for the unit.

#### REINFORCEMENT ACTIVITIES

are additional instructional opportunities recommended for students not demonstrating mastery on lesson quizzes and end-of-unit assessments. These activities provide more intensive instruction on the skills and standards taught in the unit.

ON TRACK! EXTENSION
ACTIVITIES are multistep
word problems designed for
small groups—student-led
for "on-track" students and
teacher-led for struggling
students. These activities
promote group discussion,
collaboration, and support
for complex math problems.

### **Enriching Technology:**

### VmathLive Engages Students



TransMath is accompanied by VmathLive at no additional charge.

VmathLive® is an online, independent-learning component that helps students apply math skills in a fun, interactive environment that is available anytime and anywhere, on any device. VmathLive engages students with competitive games and additional instruction to improve their math skills in conjunction with TransMath or as an independent differentiation and enrichment tool.



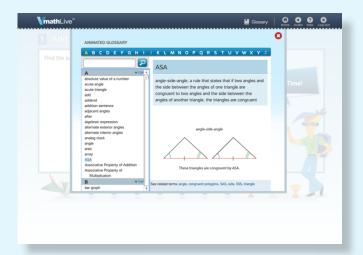
**Home Page** 



**Problem-Solving Activity** 



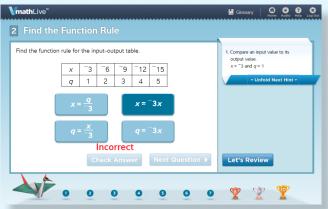
**Compete with other students** or the computer



**Animated Glossary includes** key math vocabulary



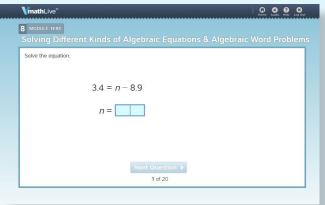




**Practice Activities** 



Rewards promote student participation



Mini Assessments



Progress Reports show current and past activity

### Actionable Data and Reports:

### **Data Drives Instruction**

The comprehensive *TransMath* assessment system allows teachers to accurately measure student progress and proficiency at every stage of instruction. With a variety of reports available from the district level to the individual student, teachers and administrators have actionable data to drive instructional decisions, communicate progress, and ensure students meet their goals.

Most assessments are available online and paper/pencil with all reports conveniently stored in our online data-management system.

### Balanced Assessment

*TransMath* uses a comprehensive approach to progress monitoring—from each assessment taken by a student to reports generated by teachers.



#### **PERFORMANCE ASSESSMENTS**

are an additional tool to assess student reasoning and problem solving after each unit and can be used as an effective FSA-prep tool. They require students to demonstrate problem-solving abilities and the proper use of mathematical language and vocabulary to justify their processes and solutions.

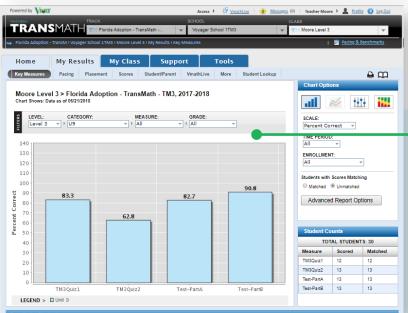
### THE STUDENT/PARENT REPORT

is a custom report generator designed for parent communication about student progress. The report summarizes score data on key measures in an easy-to-read format for students and parents.

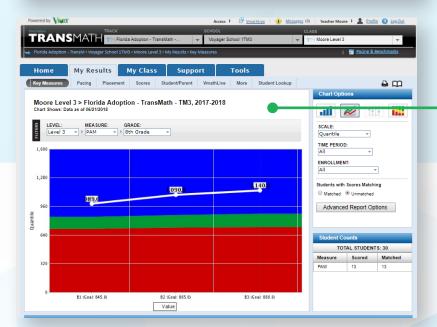




**BASELINE AND SUMMATIVE ASSESSMENTS** are administered at the beginning and end of each year. Depending on the *TransMath* level, each assessment measures six to nine topics and demonstrates strengths and weaknesses in grade-level proficiency at a granular level.



**END-OF-UNIT ASSESSMENTS AND UNIT QUIZZES** assess key skills, procedures, and conceptual knowledge from the unit. The results provide crucial, timely data and allow teachers to make instructional decisions for students that have an immediate impact.



## PROGRESS ASSESSMENT FOR MATHEMATICS (PAM) powered

by The Quantile® Framework for Mathematics is a benchmark assessment that assigns students a Quantile score. A Quantile represents a student's range of skills and readiness for learning new skills. As a benchmark assessment, PAM tracks student proficiency during the course of the year.

### **Unparalleled Professional Development and Support:**

### Make a Difference in Florida

Adopting a new math program is a huge commitment for every district and a substantial change for teachers and students. Voyager Sopris Learning® understands the importance of effectively planning, launching, and nurturing an implementation to achieve success.

Therefore, we customize implementation plans to meet the specific needs and goals of every district adopting TransMath. We are the experts of our programs like district leaders are the experts of their schools, and we work with districts to customize an implementation plan that includes the training and support teachers deserve.

With a variety of services and activities, our top priority is building an effective and sustainable implementation in year one with supports to maintain that success each year of the adoption.

All professional development plans are built as flexible, living documents to adjust to the ongoing needs of the district with services such as, but not limited to:

### **District Launch Trainings for Teachers**

- · initial fall launch training
- new-hire launch training (mid year)
- delayed late-hire launch training

### **Priority Support for District-Identified Schools**

- custom work sessions
- custom data reports
- intensive support services
- individualized action plans

### **Leadership Touchpoints for Administrators**

- implementation status
- planning, goal setting
- challenges/next steps
- data reports and analysis
   classroom observation PD
  - MAFS instruction

### **Webinars for Monthly Online Touchpoints**

- customized topics
- sharing best practices
- Q&A forums
- FSA prep and enrichment

### **Implementation Support for All Schools**

- lesson modeling
- curriculum review
- data analysis
- MAFS alignment
- differentiation coaching
- side-by-side coaching
- principal/coach meetings
- progress monitoring
- goal setting/action plans
- lesson planning/delivery
- student grouping
- classroom visits

#### **District Meetings & Customizations**

- strategic planning
- data analysis
- MAFS & FSA alignment
- ongoing PD planning
- custom pacing guide
- SSO integration
- customized reporting
- goal setting/action plans



Creating a new path to algebra. Read what our customers have to say...

<sup>66</sup>Last semester, we had 23 percent overall growth in our students who were in *TransMath* Level Three, and that was looking at all six of our traditional high schools.<sup>99</sup>

### —April Brantley

Alamance-Burlington School System, North Carolina breaks [math] down is amazing...When my students say, 'I can't do fractions,' and then by the end of the lesson, they're getting 95 percent and saying, 'Yes, I can,' it's really great to see."

### —Sarah Sherman

Albuquerque Public Schools, New Mexico

offering help to another student who may have made an error or is confused. It empowers them and also tells me that if you can teach the skill, then you have mastered the skill.

### —Patrice Kentner

City School District of New Rochelle, New York <sup>66</sup>I know when we presented the data in front of the board of ed, they were just like in awe of the growth that the kids are making from the use of *TransMath* with our district assessments to our state assessments.<sup>99</sup>

### —Jason Rosen

Farmington Public Schools, Missouri Contact your sales executive to explore successful solutions for your students today.

# TRANSMATH®

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