### 2013 - 2014

# 6<sup>th</sup> Grade Math Program Informational Meeting

Wednesday, January 22, 2014 @ 7:00 p.m. &

Friday, January 24, 2014 @ 9:45 a.m.

Mr. Michael Richards *Principal, LMS* 

Dr. Christopher Herte *Mathematics/Science Supervisor 5-8* 

Mrs. Georgianna Kichura Asst. Principal, LMS





# Agenda

- Common Core Standards
- Curriculum
- EnVision Math Program & materials
- Activities
- Placement Process
- Your questions





# Mathematics Program

- Overview
- Resources
  - Extra help
  - Study Guides
  - EnVision online textbook and resources
  - Odyssey
- Extra-curricular & Math related activities
  - Math Competitions & Games
    - Mathcounts
    - Math League Contest (February 2/25) Math Teachers
    - Science League Contest -1-day contest (April)



## Common Core Standards

- Aligned with college and work expectations
- Rigorous content and application of knowledge skills
- Built upon the strengths of current state standards
- Evidence and researched-based
- Informed by top-performing countries
- Website:
  - /http://www.corestandards.org/



### **Common Core State Standards**

### Mathematics Grades 6-8

### Grade

	6	7	8
Ratios and Proportional Relationships	Ratios     Unit rates	Analyzing proportional relationships     Use proportional relationships to solve multi-step percent and ratio problems	Irrational numbers     Use rational approximations of irrational numbers to compare sizes of irrational numbers
The Number System	Operations including mult./divide fractions     The system of rational numbers	The system of rational numbers     The system of real numbers	The system of real numbers
Expressions and Equations	Arithmetic and algebraic expressions     Reason & solve one-variable equations and inequalities     Analyze and represent quantitative relationships	Use properties of operations to generate equivalent expressions Solve real-life and mathematical problems using numeric and algebraic expressions and equations.	Work with radicals and integer exponents     Connections between proportional relationships, lines, and linear equations     Analyze & solve linear equations and pairs of simultaneous linear equations
Functions			Function concepts     Use functions to model relationships     between quantities
Geometry	Solve real world problems of area, surface area, and volume	Congruence and similarity     Angles (supplementary, complementary, vertical, adjacent) and use to solve simple equations.     Solve real world problems of area, surface area, and volume	Congruence and similarity     The Pythagorean Theorem     Plane and solid geometry
Statistics and Probability	Variability and measures of central tendency     Summarizing and describing distributions	Situations involving randomness     Random sampling to draw inferences about a population     Draw informal comparative inferences about two populations     Develop, use, evaluate probability models	Patterns of association in bivariate data

Adapted from Common Core State Standards for Mathematics from <a href="http://www.corestandards.org/assets/CCSSI">http://www.corestandards.org/assets/CCSSI</a> Math%20Standards.pdf accessed 2/15/11 Dr. Christopher Herte

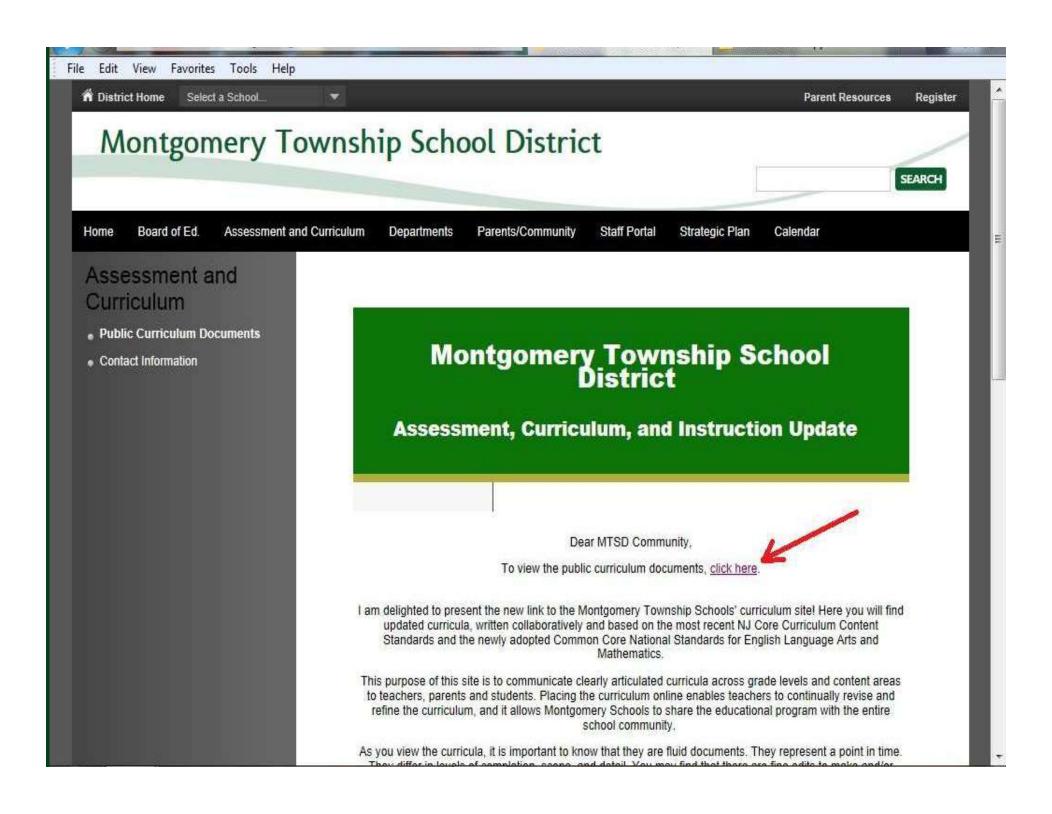
## Curriculum

 How can I find out more about the curriculum?

 The next few slides show how you can find the curriculum of any course with a few clicks from the District home page.









#### Atlas

#### Welcome!

Welcome to the Montgomery Township Schools' curriculum site! Here you will find updated curricula, written collaboratively and based on the most recent NJ Core Curriculum Content Standards and the newly adopted Common Core National Standards for English Language Arts and Mathematics.

This purpose of this site is to communicate clearly articulated curricula across grade levels and content areas to teachers, parents and students. Placing the curriculum online enables teachers to continually revise and refine the curriculum, and it allows Montgomery Schools to share the educational program with the entire school community.

As you view the curricula, it is important to know that they are fluid documents. They represent a point in time. They differ in levels of completion, scope, and detail. Teachers will be routinely reviewing, refining and revising the documents to best serve our students.

We are pleased that you will be able to follow the educational program offered to Montgomery Township School District students. The curriculum is arranged by course and by unit. For each course, you will find a Course Calendar, From this Course Calendar, you will be able to open and explore the units that comprise the course.

Specifically, for each unit, you will see:

- State and/or national standards
- Rationale for teaching the unit
- Enduring Understandings
- Essential Questions
- Content What students should know
- Skills What students should be able to do
- Key terms





















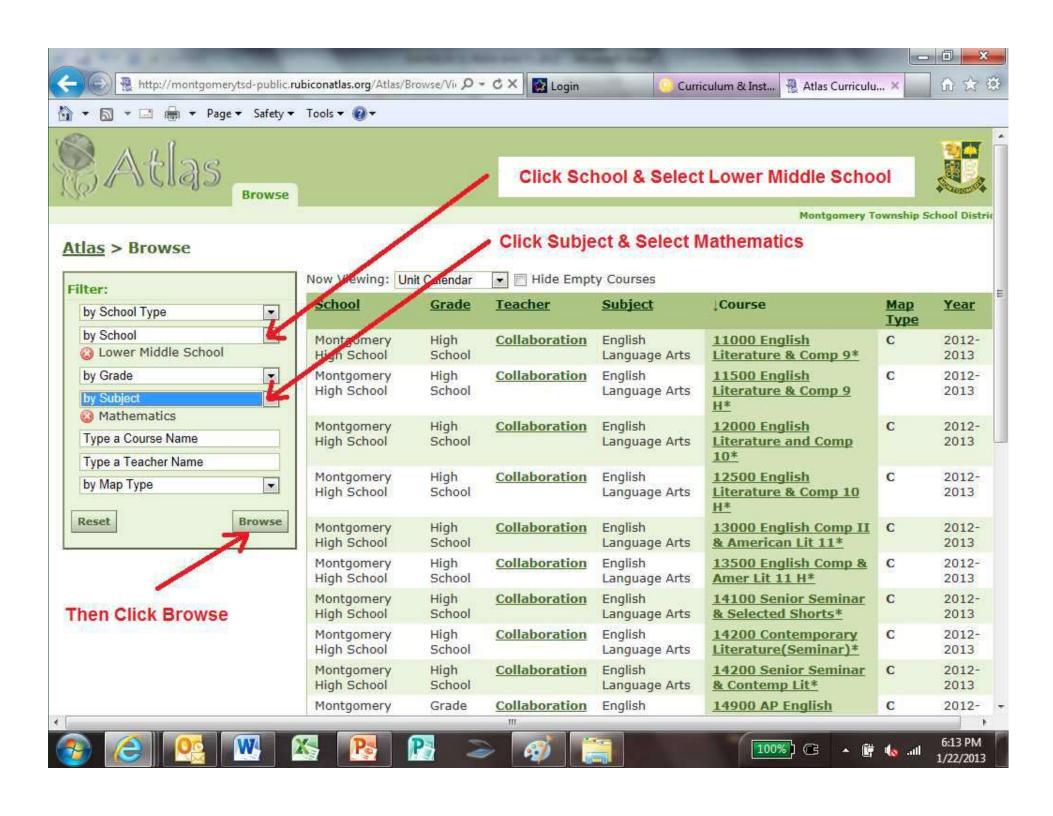


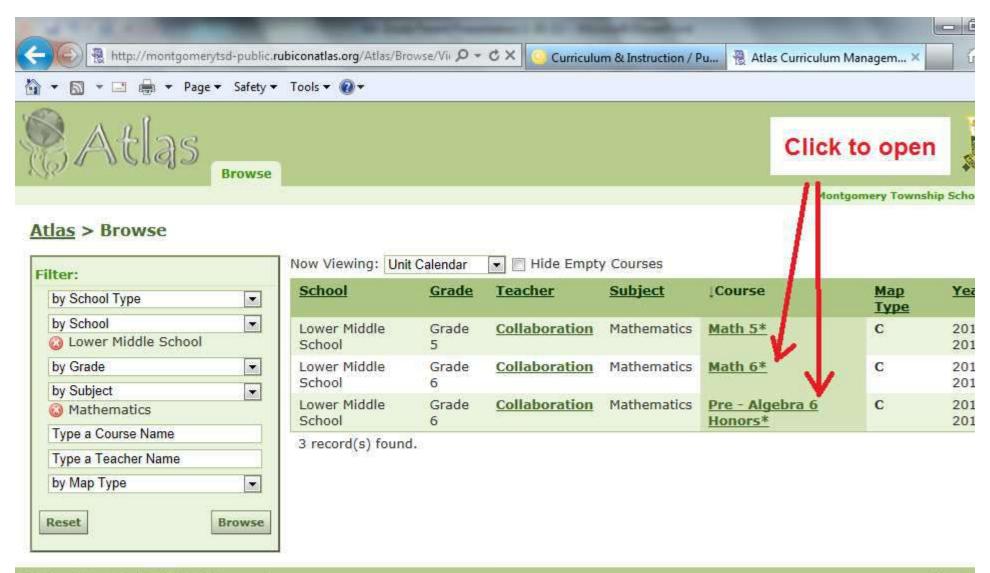








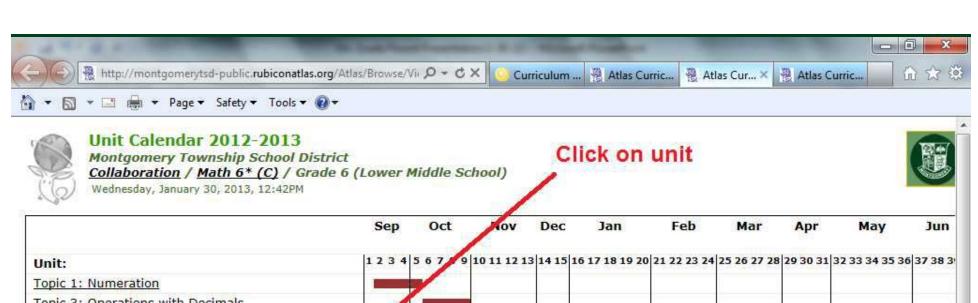






Atlas Ve







© Rubicon International 2013. All rights reserved

Atlas Version 7.2.6



















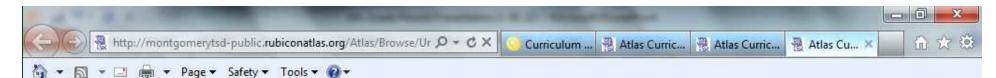














### Unit Map 2012-2013

Montgomery Township School District

Collaboration / Math 6\* (C) / Grade 6 (Lower Middle School)

Wednesday, January 30, 2013, 12:42PM



#### Unit: Topic 7: Adding & Subtracting Fractions (Week 19, 3 Weeks)

#### **Unit Rationale**

There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones. Numbers can be used for different purposes, and numbers can be classified and represented in different ways.

Numbers can be approximated by numbers that are close. Numerical calculations can be approximated by replacing numbers with other numbers that are close and easy to compute with mentally. Some measurements can be approximated using known referents as the unit in the measurement process. Rules of arithmetic and algebra can be used together with notions of equivalence to transform equations and inequalities so solutions can be found. Mathematics content and practices can be applied to solve problems.

#### **Enduring Understandings**

- Adding or subtracting fractions with like denominators is similar to adding or subtracting whole numbers. Add or subtract the numerators and write the sum or difference over the common denominator.
- To add or subtract with unlike denominators, change to an equivalent fraction with like denominators.
- One way to add or subtract mixed numbers is to add or subtract the fractional parts and then the whole number parts.
- All nonzero whole numbers have common multiples, including at least one.
- Sums and differences of mixed numbers can be estimated by rounding each mixed number to the nearest whole number.
- Equations can be transformed into equivalent equations and solved using properties of equality and inverse relationships.

#### **Essential Questions**

- What are standard procedures for estimating and finding sums and differences of fractions and mixed numbers?
- Why do we need to get common denominators in order to add or subtract fractions?



















111













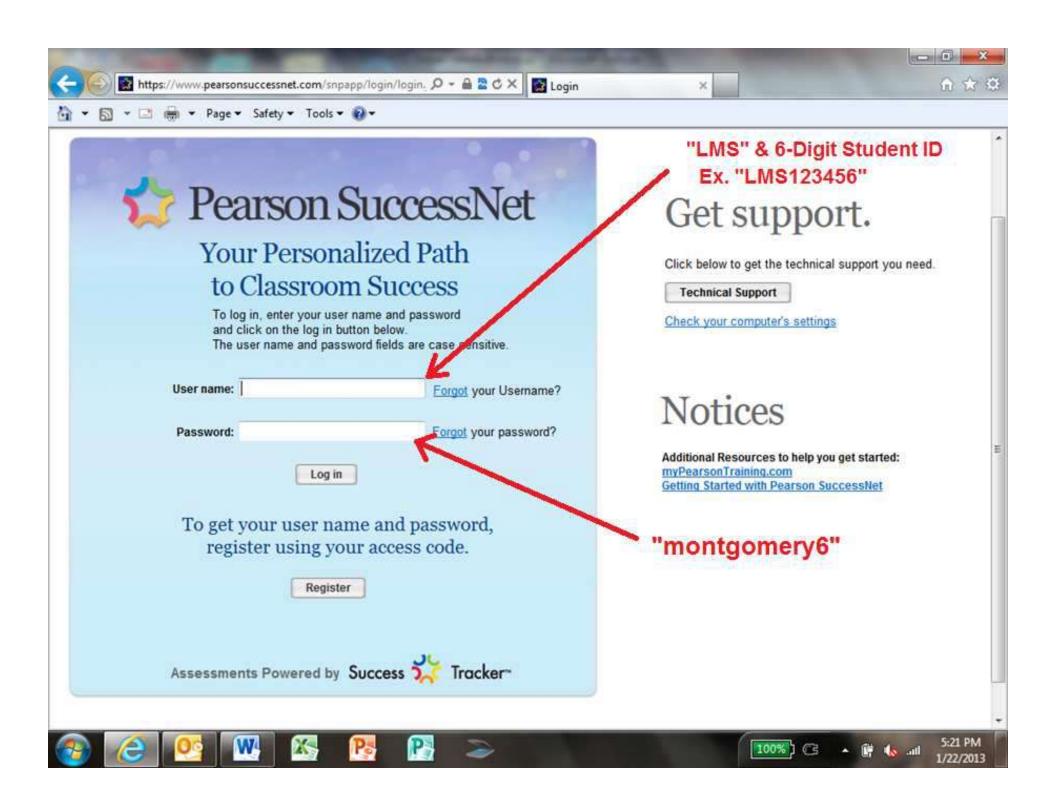
## Envision Textbook

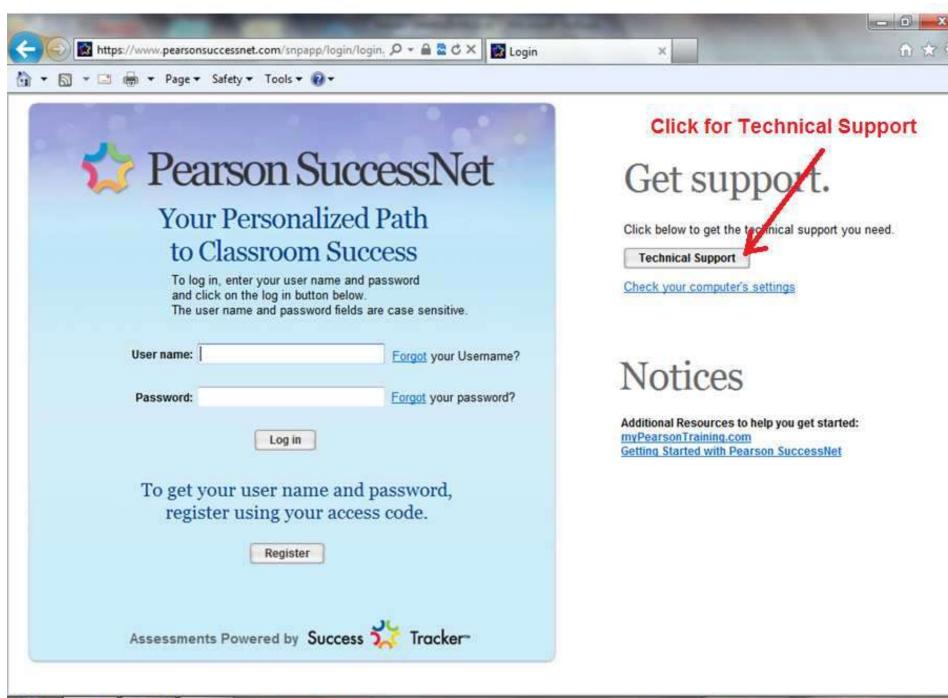
 How can I access the EnVision textbook from home?

 The next few slides show how you can access the EnVision textbook and materials from:

www.pearsonsuccessnet.com























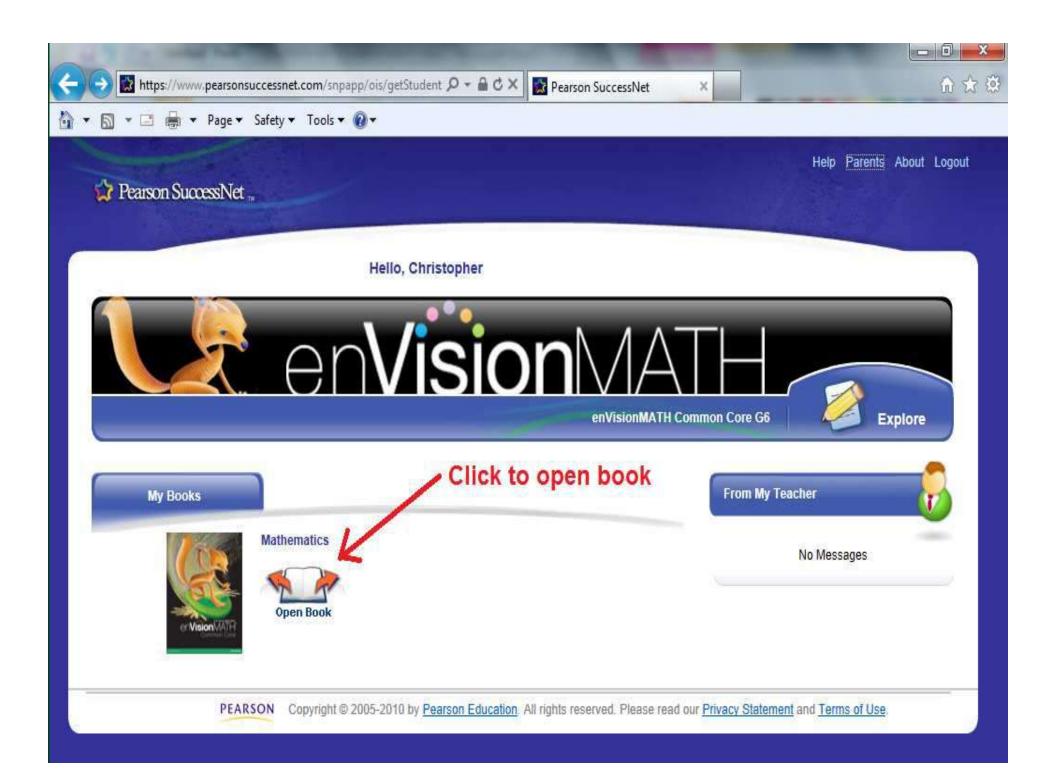


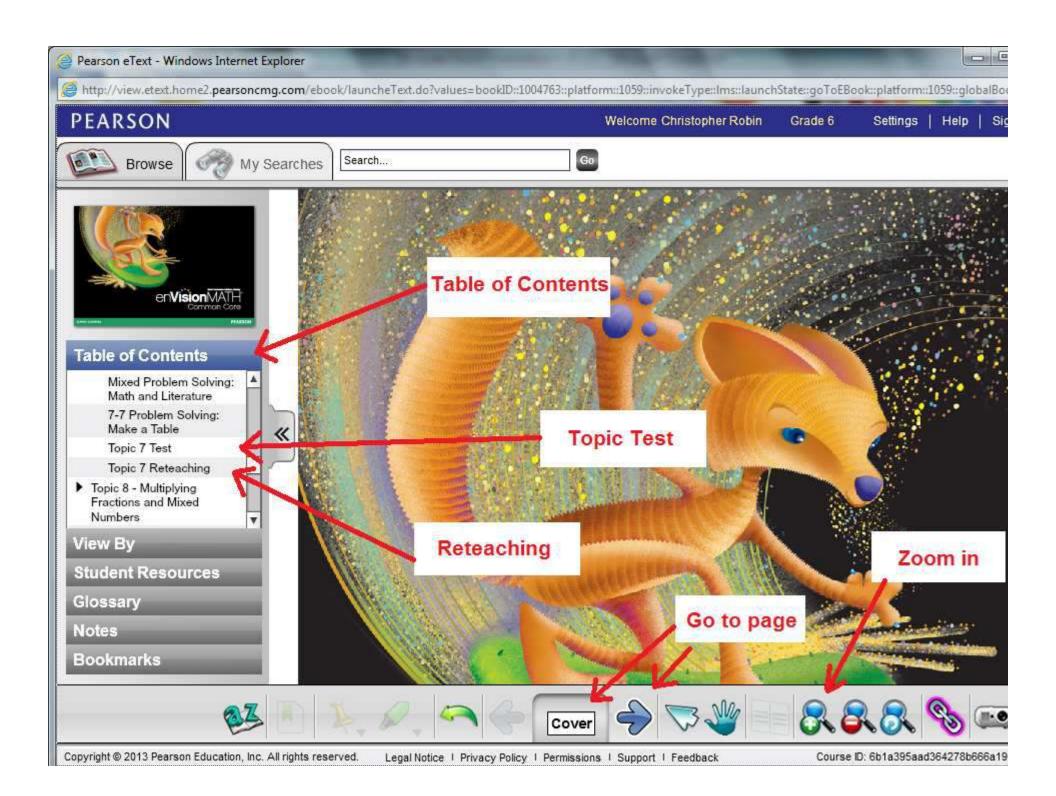


























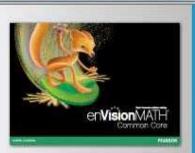








162



#### **Table of Contents**

- Topic 2 Variables, Expressions, and Properties
- Topic 3 Operations with Decimals
- ▶ Topic 4 Solving Equations
- Topic 5 Number and Fraction Concepts
- Topic 6 Decimals, Fractions, and Mixed Numbers
- Topic 7 Adding and Subtracting Fractions and Mixed Numbers
  - 7-1 Adding and Subtracting: Like Denominators
  - 7-2 Least Common

### View By

Student Resources

Glossary

Notes

Bookmarks

7-1

#### © Common Core

6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem...

### Adding and Subtracting: Like Denominators

How can you add fractions with like denominators?

Greg ate  $\frac{1}{8}$  of a quesadilla with peppers and  $\frac{1}{8}$  of a same-size quesadilla with beans. How much of one whole quesadilla did he eat?

**Choose an Operation** Add the fractional parts.



### **Another Example**

How can you subtract fractions with like denominators?



Find 
$$\frac{5}{8} - \frac{1}{8}$$
.

The fractions have like denominators. Subtract the numerators. Write the difference over the like denominator.

$$\frac{5}{8} - \frac{1}{8} = \frac{4}{8}$$

The difference is  $\frac{4}{8}$ .

### Step 2

Simplify the answer.

The GCF of 4 and 8 is 4.

$$\frac{4 \div 4}{8 \div 4} = \frac{4}{3}$$

So, 
$$\frac{5}{8} - \frac{1}{8} = \frac{4}{8} = \frac{1}{2}$$
.

**Guided Practice\*** 





7-1

Common Core

6.NS.1 Interpret and compute quotients of

fractions, and solve word problems involving division of fractions by fractions,

e.g., by using visual fraction models and equations to

represent the problem ....





















162

**Adding and Subtracting: Like Denominators** 

How can you add fractions with like denominators?

Greg ate  $\frac{1}{8}$  of a quesadilla with peppers and  $\frac{1}{8}$  of a same-size quesadilla with beans. How much of one whole guesadilla did he eat?

Choose an Operation Add the fractional parts.



### **Another Example**

How can you subtract fractions with like denominators?





The fractions have like denominators. Subtract the numerators. Write the difference over the like denominator.

$$\frac{5}{\varrho} - \frac{1}{\varrho} = \frac{4}{\varrho}$$

The difference is  $\frac{4}{9}$ .



Simplify the answer.

The GCF of 4 and 8 is 4.

$$\frac{4 \div 4}{8 \div 4} = \frac{1}{2}$$

So, 
$$\frac{5}{9} - \frac{1}{9} = \frac{4}{9} = \frac{1}{3}$$
.

# Envision Textbook

 What resources in EnVision are available and how do I access them?

 The next two slides show how you can access extra practice pages. Practice pages (PDF files) are located in Student Resources for each section.

























192



**Table of Contents** 

View By

#### Student Resources

- Lesson 8-2 Estimating Products
- Lesson 8-3 Multiplying Fractions
- Lesson 8-4 Multiplying Mixed Numbers

Practice 8-4

- Lesson 8-5 Problem Solving: Multiple-Step Problems
- Topic 9 Dividing Fractions and Mixed Numbers
- Topic 10 Integers
- Topic 11 Properties of Two-Dimensional Figures
- Topic 12 Ratios, Rates, and Proportions
- Topic 12 Calvina

Glossary

Notes

Bookmarks

8-4

## Common

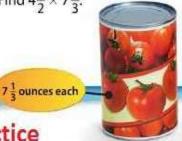
6.N5.1 Interpret and compute guotients of fractions, and solve word problems involving division of fractions by fractions, e.g. by using visual fraction models and equations to represent the problem....

### **Multiplying Mixed Numbers**

How can you find the product of mixed numbers?

A small can of tomatoes weighs  $7\frac{1}{3}$  ounces. How much do  $4\frac{1}{2}$  cans of tomatoes weigh?

Find  $4\frac{1}{2} \times 7\frac{1}{3}$ .











### extra practice

### **Another Example**

How can you use the Distributive Property to multiply a whole number and a mixed number?

Find 
$$3 \times 4\frac{2}{15}$$
.

### Step 1

Estimate:

$$3 \times 4 = 12$$

Step 2

Break apart the mixed number; use the Distributive Property:

$$3 \times 4\frac{2}{15} = 3 \times (4 + \frac{2}{15})$$
  
=  $(3 \times 4) + (3 \times \frac{2}{15})$ 

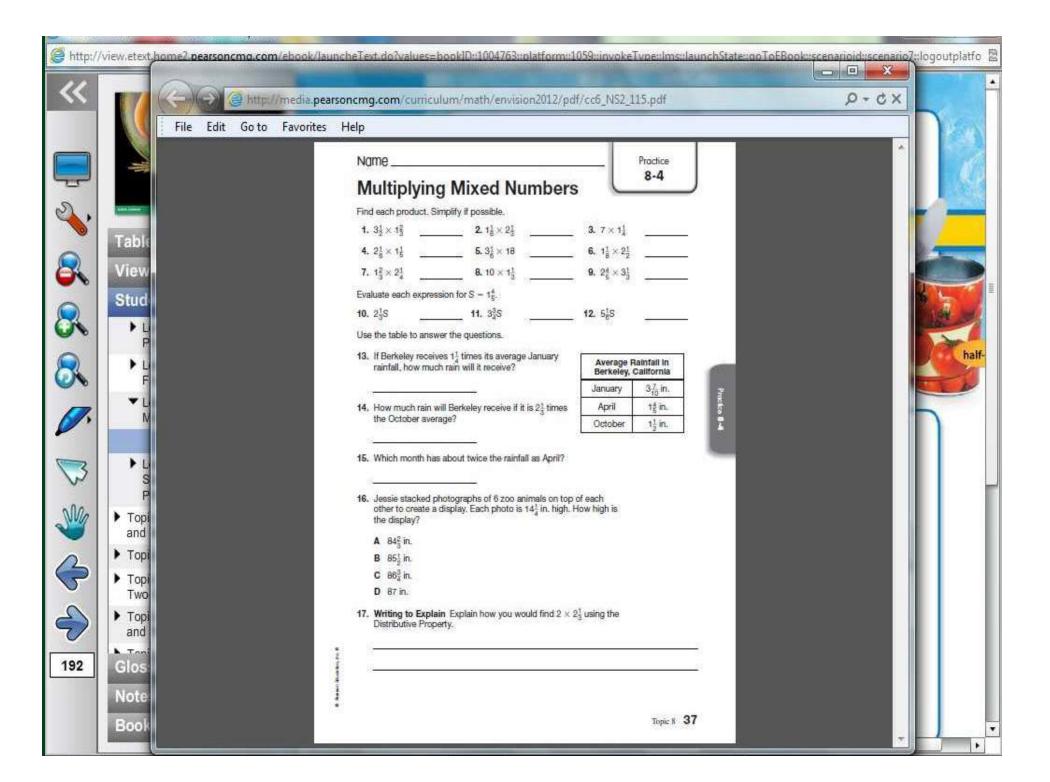
Step 3

Multiply each part and add:

$$= 12 + \frac{6}{15}$$

$$=12\frac{6}{15}$$

The answer,  $12\frac{6}{15}$ , is close to the estimate, 12, so the answer is reasonable.



## Envision Textbook

 How can I access the Reteaching pages?

 The Reteaching pages give a brief review and extra practice. There is one Reteaching page in each Unit. You access these from the Table of Contents.



#### Pearson eText - Windows Internet Explorer



🤗 http://view.etext.home2.pearsoncmg.com/ebook/launcheText.do?values=bookID::1004763::platform::1059::invokeType::lms::launchState::goToEBook::scenarioid::scenarioid:scenario7::logoutplatfo 🗟























182



#### Table of Contents

7-6 Subtracting Mixed Numbers

Mixed Problem Solving: Math and Literature

7-7 Problem Solving: Make a Table

Topic 7 Test

#### Topic 7 Reteaching

- ▶ Topic 8 Multiplying Fractions and Mixed Numbers
- ▶ Topic 9 Dividing Fractions and Mixed Numbers
- Topic 10 Integers
- ▶ Topic 11 Properties of Two-Dimensional Figures
- Topic 12 Ratios, Rates,

### View By

Student Resources

Glossary

Notes

Bookmarks

### Topic 7 Reteaching

( INTERVENTION

Set A, pages 162-163



The fractions have like denominators. Add or subtract the numerators.

$$\frac{2}{9} + \frac{1}{9} = \frac{3}{6}$$

$$\frac{2}{9} + \frac{1}{9} = \frac{3}{9}$$
  $\frac{7}{9} - \frac{1}{9} = \frac{6}{9}$ 

Use the GCF, 3, to simplify.

$$\frac{2}{9}$$
  $\frac{1}{9}$   $\frac{3}{9}$   $\frac{1}{3}$ 

$$\frac{7}{9} - \frac{1}{9} = \frac{6}{9} = \frac{2}{3}$$

Remember that when the denominators are the same, you add or subtract only the numerators.

Find each sum or difference. Simplify.

1. 
$$\frac{2}{5} + \frac{1}{5}$$

1. 
$$\frac{2}{5} + \frac{1}{5}$$
 2.  $\frac{9}{10} - \frac{7}{10}$ 

3. 
$$\frac{7}{8} + \frac{2}{8}$$

3. 
$$\frac{7}{8} + \frac{2}{8}$$
 4.  $\frac{12}{13} - \frac{8}{13}$ 

Set B, pages 164-168

Find the least common multiple (LCM) of 5 and 6.

List multiples of each number.

The LCM is 30. Use this LCM as the least common denominator (LCD) to calculate below.

$$\frac{3}{5} = \frac{18}{30}$$

$$\frac{5}{-\frac{1}{6}} = \frac{5}{30}$$

Remember that the LCM of the denominators in a set of fractions is the LCD for that set of fractions.

Find the LCM for each set of numbers.

Find each sum or difference. Simplify.

**5.** 
$$\frac{1}{2} + \frac{1}{7}$$
 **6.**  $\frac{1}{3} + \frac{2}{4}$ 

6. 
$$\frac{1}{3} + \frac{2}{3}$$

7. 
$$\frac{3}{4}$$
 -  $\frac{3}{4}$ 

7. 
$$\frac{3}{4} - \frac{1}{3}$$
 8.  $\frac{5}{6} - \frac{1}{2}$ 

# Envision Textbook

How can I access the Topic Tests?

 The next slide shows how you can access the Topic Tests. Topic Tests are a great practice in preparing for the End of Year Assessment as well as preparing for a Unit Test.



# Odyssey

## How can I access Odyssey?

- The next slide provides the login information for Odyssey. Odyssey is a great resource for enrichment, extra practice, and remediation. A learning path is set for each student based on their Fall MAP test. Additionally, students can explore and do other work/learn other lessons.
- Learning path also set after Spring MAP.



### CompassLearning¶





Do you want to help your child with schoolwork, but not sure how?

### We have the answer for you!

The Montgomery Township School District has partnered with CompassLearning toprovide-students- and-parents- with-web-based-instructional-content-from-anycomputer at the click of a button. This content is aligned to New Jersey State and National-standards.ff

CompassLearning Odyssey® is a web-based curriculum that delivers interactive, selfpaced, challenging, engaging activities that are tied to what your child is learning at school. Activities promote exploration, individual and cooperative learning problemsolving, reflection, and real-world-connections. ¶

Simply-go-to:¶

#### http://compasslearningodyssey.com¶

and have your child log on using his/her username (student ld#) & password (student Id#).T

In addition, parents have their own username & password where they can monitor their child's progress and previews activities.



Parent-Username:

P(student-id#)o

Parent-Password:0

P(student-id#)o mtsda

School:p

\*You-must-type-mted-in-for-the-school.¶

Get the whole family involved in your child's education.

Parent Username: P(student 6-digit id#)

Parent Password: P(student 6-digit id#)

School: mtsd

## Activities

- What activities are available?
- Mathcounts
- Math League Contest
   (See Math Teacher)

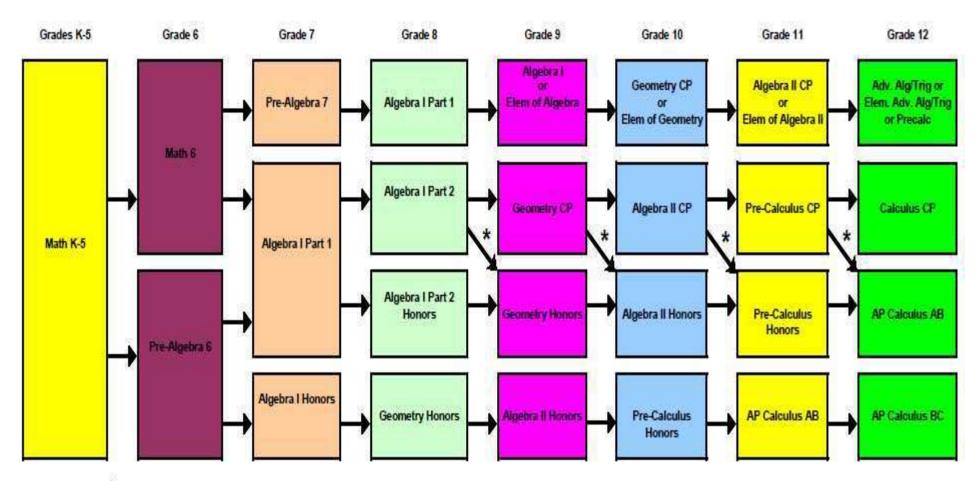
Science League Contest (Contest in April)
 (E-Alert will be sent for sign ups)

# Math Sequences

 What are the <u>common</u> math sequences?

 The next slide illustrates the <u>common</u> math sequences. Students can also accelerate, after they have completed Algebra I, if they choose. They can do this through Option II (taking an approved course over the summer) or by doubling up with Geometry and Algebra II.

### Montgomery Township Schools Common Mathematics Sequences



NOTES: \* Denotes possible course path if student meets the HS Program of Studies Requirement of 95% or higher in prerequisite course.

Common course sequences are illustrated. Additional opportunities are available through Option II process. See HS Program of Studies Guide.

In order for students to continue in the Honors sequence, students must maintain the required average based on the Course of Study requirements.

# Pre-Algebra 7

- A course aligned with the Common Core Standards that emphasizes problem-solving and critical thinking while developing necessary concepts for the further study of algebra in a high school level course.
- Emphasis is placed upon the development and understanding of pre-algebraic and algebraic skills and their use in application and problem solving.
- Course topic sections include operations with integers, and rational numbers, factors, exponents, algebraic expressions, solving one and multi-step equations and inequalities, ratio, proportions, percents, probability, geometry.

# Algebra I Part 1

- A full-year course that develops the first half of the study of high school Algebra I. Students develop skills in problem solving and critical thinking through real-world and mathematical problems.
- Course topic sections include writing, simplifying, and evaluating algebraic expressions. Modeling, writing, and solving algebraic equations and functions. Graphing and representing linear equations in a variety of forms. Creating, analyzing, and making linear predictions with scatter plots is developed.



# Algebra I Honors

- A full year course that develops all the concepts and skills of high school Algebra I.
- Topics include: expressions, polynomials, radicals, exponents, linear and non-linear functions, quadratic equations, systems of equations and inequalities, probability and data analysis.



## Math Placement

• What are the placement criteria for grade seven courses?



# Placement Criteria for Pre-Algebra 7 & Algebra I Pt. 1

- Unit Test averages (40%) the four marking periods
- End of Year Assessment (25%) placement test
- Measures of Academic Progress-MAP (25%)
- Work Habits/Study Skills (10%) assessed by the teacher using a district-developed rubric

These criteria will make up the final summary score that determines the student's mathematics placement.



# Placement Criteria for Algebra I Honors

- Unit Test averages (30%) the four marking periods
- End of Year Assessment (20%) Pre-Algebra 6
- Measures of Academic Progress-MAP (20%)
- IOWA Algebra Aptitude Test (20%)
- Work Habits/Study Skills (10%) determined by the teacher using a district developed rubric
- These criteria will make up the final summary score that determines the student's mathematics placeme

### Unit Test Averages

- Unit tests are common assessments for all students in grade 6
- Concepts are reviewed. The end of chapter tests are a great resource for practice and review.



### End of Year Assessment

- Scheduled for June 11<sup>th</sup> and June 12<sup>th</sup>
- End of Year Assessment is a common assessment for all students in their course.
- Concepts are reviewed and a review packet is distributed to students
- Important for students to pull all concepts from the year together



## Measures of Academic Progress -MAP

- Scheduled for April
- Computerized adaptive test
- Untimed assessment
- Sets learning paths for Odyssey
- Charts your child's academic growth from year to year
- The information helps to guide instruction and to make placement decisions

### Iowa Algebra Aptitude Test

- Scheduled for May 29<sup>th</sup> (Make ups 5/30)
- Helps determine the readiness of students for Algebra I Honors
- Four sections, each section is timed and takes 10 or less minutes to complete.
- Total of 63 questions, calculators may not be used.



## Work Habits/Study Skills

 What are the Work Habits/ Study Skills?



## Work Habits/ Study Skills

- Reviewed with students
- Based on a District developed rubric



Montgomery Township Schools Mathematics Work/Study Habits Rating Sheet

ent's Name:	Grade:	Date:
ner:	Period:	
Use the Mathematics Work/Study H	labits Rating Sheet to complete the	following:
<u>Criteria</u>		Score (4-1)
Completes assignments thorough	hly	
Comes to class prepared with bo assignments	ooks, materials and	
3. Utilizes and maintains a mathen	natics journal/notebook	
4. Demonstrates ability to work inc	dependently when appropriate	
5. Solicits academic assistance who	en appropriate	
6. Demonstrates ability to work eff	fectively in groups	
Demonstrates a positive attitude intellectual challenge	e when faced with an	
8. Demonstrates problem solving sl	cills	
Reviews and checks work		
10. Demonstrates consistency in pe	rformance	
Total (sum of the ten scores) =	56	
Work/Study Habits Score = Total (round to the nearest tenth)	1/10 =	

Mathematics Work Habits /Study Skills Assessment- Grades 5 & 6

Criteria	4 points	3 points	2 points	1 point
1- Completes assignments thoroughly.	Assignments are consistently attempted and complete with necessary work shown i.e. with few exceptions	Assignments are frequently attempted and complete with necessary work shown i.e. At least 4 days/week	Assignments are occasionally attempted and complete with necessary work shown i.e. at least 3 days/week OR Assignments are attempted 4 or 5 days/wk without necessary work shown.	Assignments are rarely or never attempted; when attempted, no work is shown.
<ol> <li>Comes to class prepared with books, materials and assignments.</li> </ol>	With few exceptions	At least 4 days/week	At least 3 days/week	From 0- 2 days/week
3- Utilizes and maintains a mathematics journal/notebook	Consistently	Frequently	Occasionally	Rarely/Never
4- Demonstrates ability to work independently when appropriate	Consistently	Frequently	Occasionally	Rarely/Never
5- Solicits academic assistance when appropriate	Consistently seeks appropriate academic assistance.	Frequently seeks appropriate academic assistance.	Occasionally seeks appropriate academic assistance.	Rarely/Does not seek appropriate academic assistance.
6- Demonstrates ability to work effectively in groups	Consistently cooperates and contributes to group effort	Consistently cooperates or contributes to group effort	Occasionally cooperates or contributes to group effort	Rarely cooperates or contributes to group effort
7- Demonstrates a positive attitude when faced with an intellectual challenge	Consistently	Frequently	Occasionally	Rarely/Never
8- Demonstrates problem solving skills	Consistently applies a systematic approach to problem solving	Prequently applies a systematic approach to problem solving	Occasionally applies a systematic approach to problem solving	Rarely or Never applies a systematic approach to problem solving
9- Reviews and checks work	Consistently looks back to check reasonableness of work	Frequently looks back to check reasonableness of work	Occasionally looks back to check reasonableness of work	Rarely or never looks back to check reasonableness of work
10-Demonstrates consistency in performance	Consistently	Frequently	Occasionally	Rarely/Never

### Math Placement

 How will I be informed of my child's placement in grade 7?

 You will receive a Summary Sheet with your child's report card at the end of the year. It will provide the details illustrated on one of the next two slides.



### Data Summary Sheet

Montgomery Township Schools 
 Math Placement Data Sheet

SeventhGrade Math Placement for 2014-2015 Iuly 2014

Student's Name:

End of Year Assessment = (25% of Summary Score)

(Math 6)

MAP Assessment = (25% of Summary Score)

(Out of 285 points)

Grade Six Test Average = (40% of Summary Score)

(Test Average of 4 marking periods)

Work Habits/Study Skills Assessment = (10% of Summary Score)

Summary Score = (out of 100 points)

<u>Math Placement</u> =

**Placement Cutoffs:** 

Pre-Algebra 7: Summary Scores from 0 - 82

Algebra I Part 1: Summary Scores from 83 - 100

### Data Summary Sheet

Montgomery Township Schools © Math Placement Data Sheet SeventhGrade Math Placement for 2014-2015 July 2014

Student's Name:

End of Year Assessment = (20% of Summary Score)

(Pre-Algebra 6)

Iowa Algebra Aptitude Test = (20% of Summary Score)

MAP Assessment = (20% of Summary Score)

(Out of 285 points)

Grade Six Test Average = (30% of Summary Score)

(Test Average of 4 marking periods)

Work Habits/Study Skills Assessment = (10% of Summary Score)

Summary Score = (out of 100 points)

Math Placement =

**Placement Cutoffs:** 

Algebra I Part 1: Summary Scores from 0 - 86

Algebra I Honors: Summary Scores from 87 - 100

## Waiver Option

- The student's performance summary score and placement will be included in the end of year report card mailing.
- Parents and students can consider the waiver option if and only if a student's **summary score** is within **3 points** of the score needed for the requested placement.
- Students waived in must remain in the course the entire year.
- Waivers should be sent to the UMS main office no later than July 18, 2013.
- There will be no proficiency testing over the summer.



### Placement Timeline

- April -MAP Testing
- May 29<sup>th</sup> (30<sup>th</sup> Makeups) IOWA Algebra Aptitude Test
- June 11<sup>th</sup> -12<sup>th</sup> End of year assessment (Grade 6)
- July Report card with placement information
- July 18<sup>th</sup> Waiver form deadline to be submitted to UMS main office
- Summer New student testing (dates to be posted)



### Your Questions



Please remember to return your feedback sheets before leaving this meeting.

Thank you so much.



Dr. Christopher Herte

Mathematics/Science Supervisor 5-8

cherte@mtsd.us

