Common Core Math Informational Meeting

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Agenda

- Common Core Curriculum
- ISAT
- Essential Questions
- Math Showcase
- Resources

Why Common Core State Standards?

We need them because

- Disparate standards across the states
- Global, not neighborhood competition
- For many young people, high school wasn't preparing them for college or careers so a more rigorous curriculum needed to be presented K-12

Why the CCSS Are Important

- Prepare students with knowledge and skills to succeed in college and career
- Ensure consistent expectations regardless of a student's zip code
- Provide educators, parents and students with clear, focused guideposts
- Offer economies of scale and sharing of best practices

What are the Common Core State Standards?

* The Common Core State Standards set grade-by-grade learning expectations for students in grades K-12 for Mathematics and for English Language Arts and Literacy.

* While states have had standards for more than 15 years, this set of standards is more focused on preparing students for success in college and career. They set **clear**, **consistent** and **high learning goals**.

In addition to the Common Core Learning Standards…

* State:
* New School Report Cards
* 5Essentials Survey
* PARCC
* Student Growth Measures in Principal and Teacher Evaluation

* Local:
* Strategic Planning
* Teacher Evaluation Process

ISAT

* New ISAT "passing" or "meets and exceeds" scores have been applied beginning with the 2013 ISAT scores

* However, these new expectations **do not** mean that our students know less than they did before or are less capable than they were in previous years

* Instead, ISBE is simply **expecting more** of students going forward to show their progress toward college and career-readiness benchmarks

Changing the Criteria for "Meeting/Exceeding" on the ISAT?

* ISBE has determined that the current expectations for students in grades 3-8 are too low and do not accurately predict college and career readiness.

* This is being accomplished by raising the criteria for earning a "meets" or "exceeds" on the test

* Some students who previously met or exceeded standards will be classified as "needing improvement"

Essential Questions/Big Ideas

- What are the key shifts to the Common Core for Math?
- What are the changes to our curriculum Math?
- How is District 66 Implementing the Common Core State Standards?
- How can I help my child at home?

How Has The Content Changed?

6th Grade Content

Previous (Non Common Core)

- **Decimals**
- **Number Theory and Fractions**
  - Greatest Common Factor
  - Least Common Multiple
- **Fractions**
  - Addition, Subtraction, Multiplication, Division
- **Geometry**
  - Area, Angles , Triangles, Quadrilaterals
- **Integers**
  - Definitions, Compare, Operations
- **Equations**
  - One- step
- **Ratio, Proportion and Percent**
  - Ratio, Proportion, Percent

Current (Common Core)

- **Ratio and proportional relationships**
  - Ratios- conceptual
  - Rates
- **The number system**
  - Divide fractions
  - Common factors and multiples
  - Computation with rational numbers
- **Geometry**
  - Area, Surface area, Volume
- **Expressions and Equations**
  - Algebraic expressions
  - One-variable equations and inequalities
  - Dependent and independent variables
- **Statistics and Probability**
  - Statistical variability
  - Describe distributions

7th Grade Content

Previous (non-common core)

- Chapter 1- Number sense, patterns, order of operations
- Chapter 2- Decimal operations
- Chapter 3- Data and statistics- mean median mode and bar graphs
- Chapter 4- Number patterns and fractions
- Chapter 5- Fraction operations
- Chapter 6- Integers
- Chapter 7- Equations and inequalities
- Chapter 8- Ratio and proportions
- Chapter 9- Percent
- Chapter 10- Geometric figures
- Chapter 11- Measurement and area
- Chapter 12- Surface area and volume

Current (common core)

- Unit 0- Brief fraction review
- Unit 1- Positive and negative rational numbers
- Unit 2- Ratios and proportionality
- Unit 3- Rate, ratio and proportion application
- Unit 4- Expressions
- Unit 5- Equations
- Unit 6- Data distributions
- Unit 7- Probability
- Unit 8- Geometric Measurement

8th Grade Content

Previous (Non-Common Core)

- Unit 1 - Variables and Equations
- Unit 2 - Integer Operations
- Unit 3 - Solving Equations and Inequalities
- Unit 4 - Factors, Fractions, and Exponents
- Unit 5 - Rational Number Operations
- Unit 6 - Multi-Step Equations and Inequalities
- Unit 7 - Ratio, Proportion, and Percent
- Unit 8 - Polygons and Transformations
- Unit 9 - Real Numbers and Right Triangles
- Unit 10 - Measurement, Area, and Volume
- Unit 11 - Linear Equations and Graphs
- Unit 12 - Data Analysis and Probability
- Unit 13 - Polynomials and Functions

Current (Common Core)

Unit 1 - Real Numbers and Exponents

- Exponents, Scientific Notation, Rational and Irrational Numbers

Unit 2 - Expressions and Equations

- Solving Equations and Analyzing solutions

Unit 3 - Congruency and Similarity

- Transformations proving similarity and congruence

Unit 4 - Functions

- Slope, comparing functions, writing to describe functions, and analyzing graphs

Unit 5 - Linear Relationships

- Rate of Change and Solving Systems

Unit 6 - Pythagorean Theorem

- Using the Theorem, and how to prove it

Unit 7 - Volume

- Cylinders, Cones, Spheres

Unit 8 - Patterns and Bivariate Data

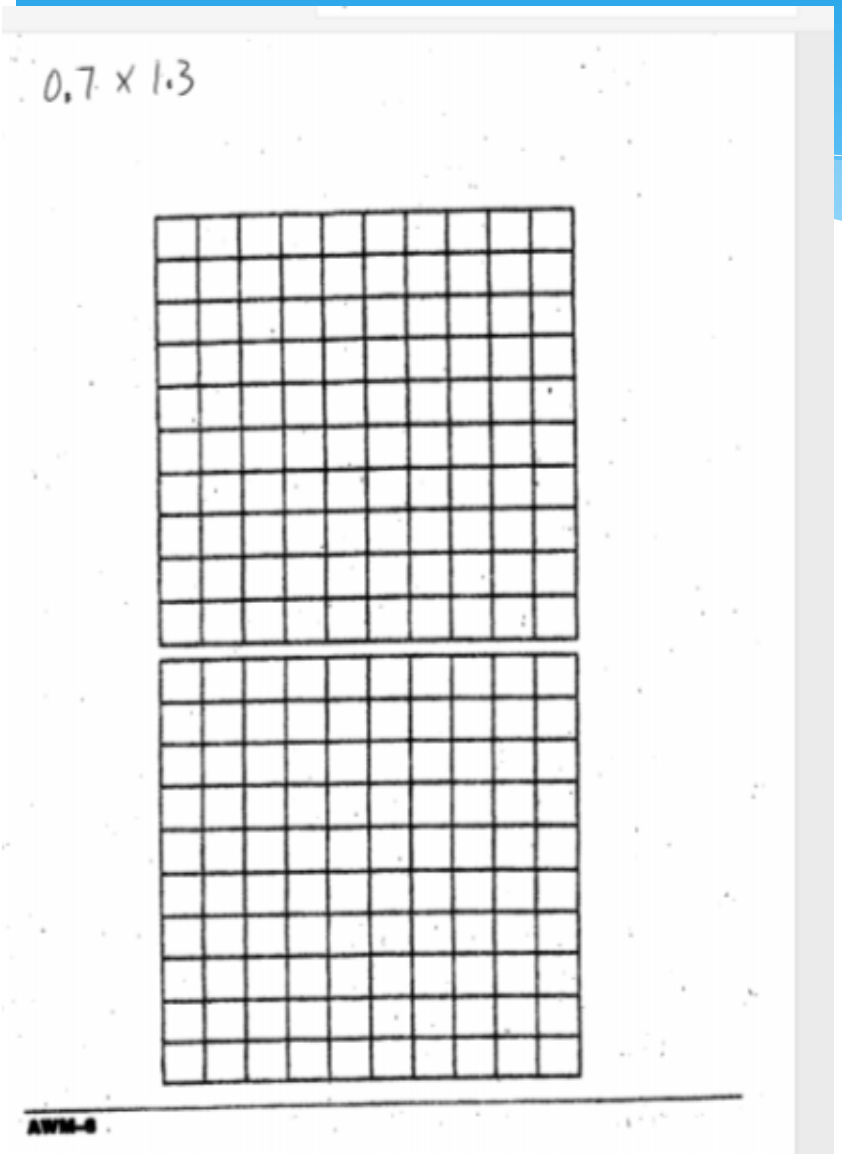
- Patterns and Associations, Predictions, and Two-Way Tables

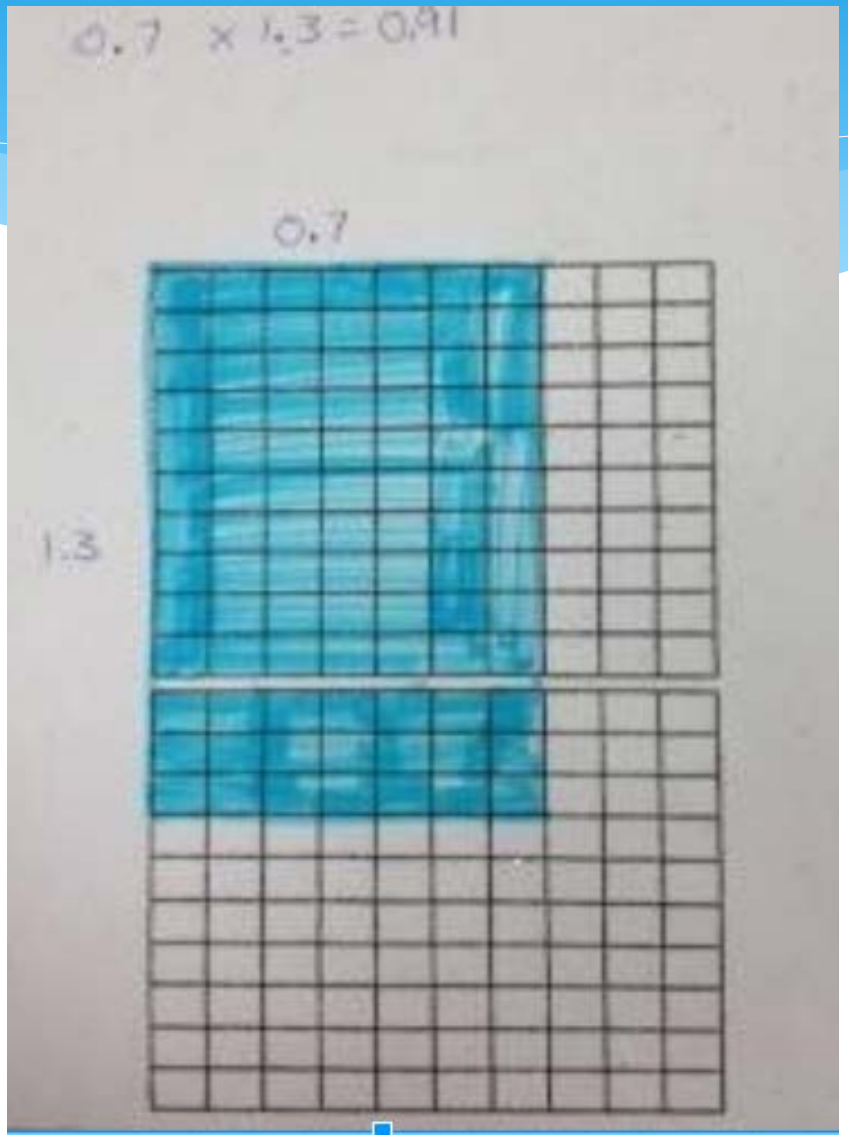
How Have Instructional Practices Changed?

Sample Word Problem:

Mr. Windsor wants to put tile in his shower floor. The shower floor is 1.3 yards by 0.7 yards. How much tile does Mr. Windsor need?

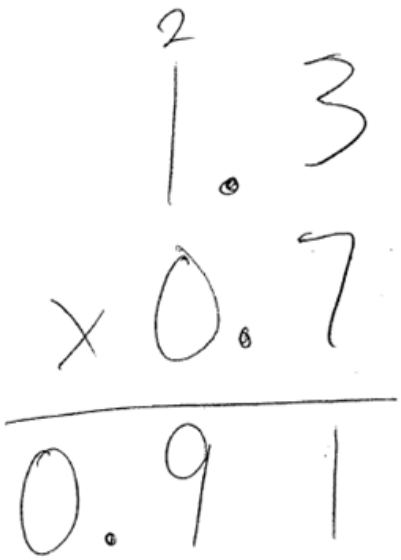
Comprehending





Once comprehension is attained then we can move onto solving.

Solving



SAMPLE TASK

NAME: _____

8.EE.3 Task • Expressions and Equations
How Many Times in a Millennium?

Part 1

Use the following information to complete the task.

second	year = 52 weeks
minute = 60 seconds	decade = 10 years
hour = 60 minutes	century = 100 years
day = 24 hours	millennium = 1,000 years
week = 7 days	

$10^0 = 1$ (year)
$10^1 = 10$ (decade)
$10^2 = 100$ (century)
$10^3 = 1{,}000$ (millennium)

Choose an action to perform, such as snapping your fingers. Count the number of times that you can perform your action in 10 seconds. Use that piece of data to complete the records below, using the same action for each.

1. I measured that I can _____

   _____ times in 10 seconds.

2. I estimate that I can _____

   _____ times in one millennium.

NAME:

8.EE.3 Task • Expressions and Equations
How Many Times in a Millennium?

3. Convert between different forms to fill out the information in the table. The first row is an example, using 3 times per second as a sample answer. Look at it to see how each column is to be filled in, using your own data.

Multiplication	Integer value	Time span for repetitions	Decimal	Power of ten
$3 \cdot 6$	18	1 minute	$1.8 \cdot 10$	$1.8 \cdot 10^1$
		1 minute		
		1 hour		
		1 day		
		1 week		
		1 year		
		1 decade		
		1 century		
		1 millennium (1,000 years)		

NAME: _____

8.EE.3 Task • Expressions and Equations
How Many Times in a Millennium?

Part 2

Complete the following sentences using the power of ten representations from the table.

4. I measured that I could _____

   _____ times in 10 seconds.

5. I estimated that I could _____

   _____ times in one millennium.

6. I calculated that I could _____

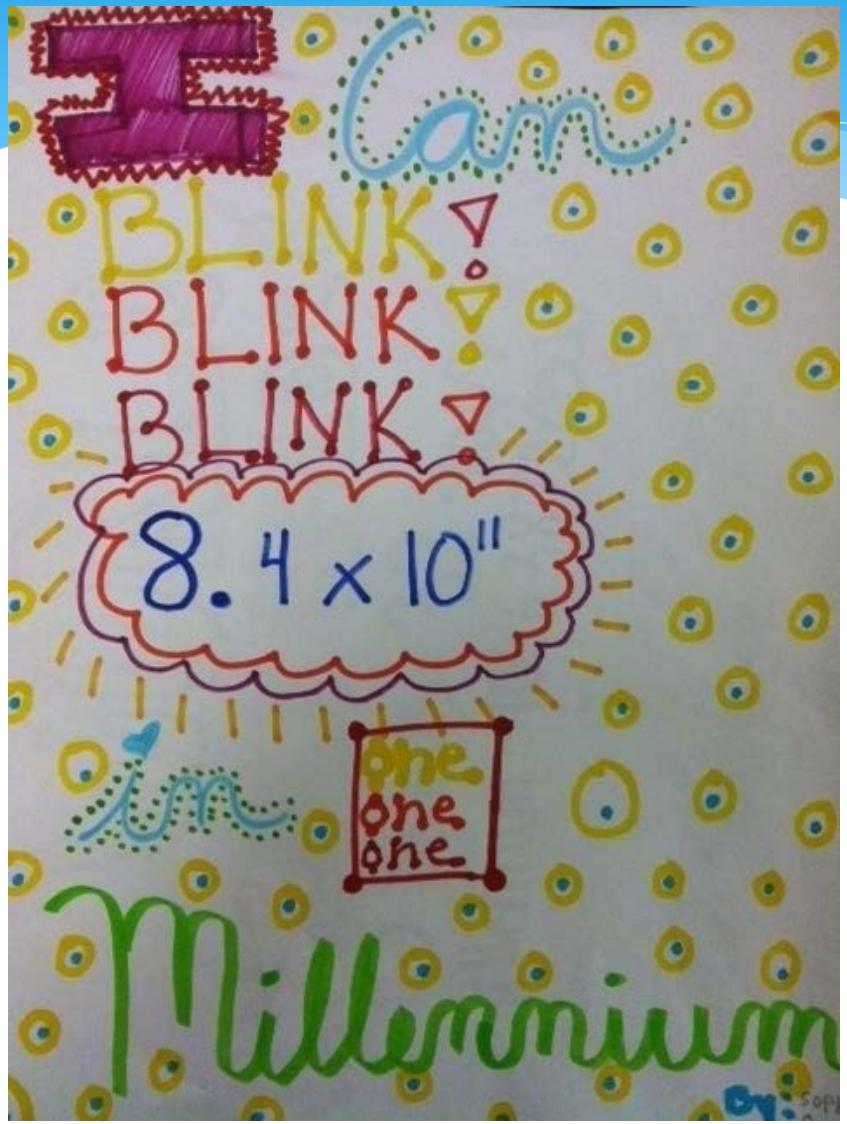
   _____ times in one millennium.

7. I can _____

   _____ times more in a millennium than I can in 10 seconds.

8. Design and create a poster for display in your classroom. Make sure your poster includes the number of times you can complete your action in a millennium using scientific notation.

Sample Posters - Part 2 #8



By: Sophia C

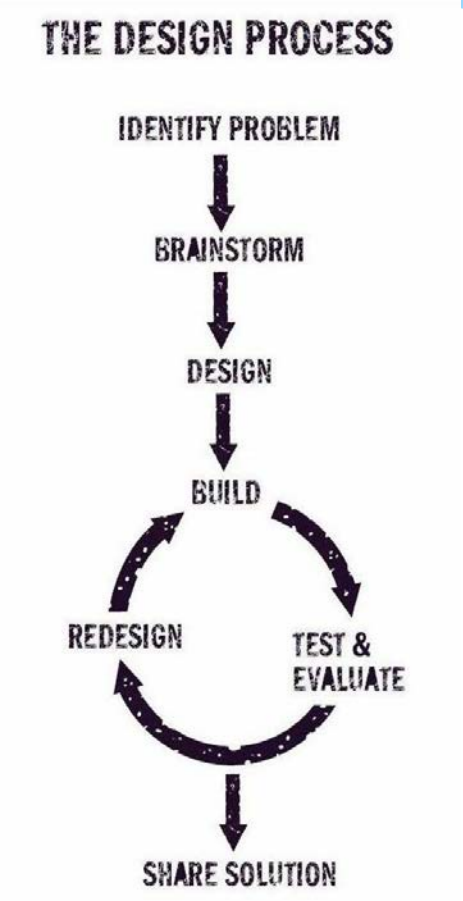
By: Crissy M

Problem Solving Process Math and STEM

Goal: Develop 21st Century Skills by creating independent problem solvers.

OLD

NEW



Student Question: *Is this right?*

Old Response: No, you should have _____.

New Response: What did you do to get that answer? or What do you think? or What did your group say?

How can you help your child?

-Help children practice their multiplication and division facts.

-Have children illustrate the math they were thinking in their head and discuss it out loud.

-Have children apply their math knowledge to a real-world scenario at home, such as doubling a recipe or calculating the area of a room. Tell them about times you use math.

-Encourage children not to give up while solving problems, to build stamina and develop their critical thinking skills. Don’t give them the answers - ask them to think of different ways they can solve problems.

How can you help your child?

--Ask children probing questions, such as:

What is the problem asking you to find?

What information do we need?

What information is unnecessary?

What have you tried so far?

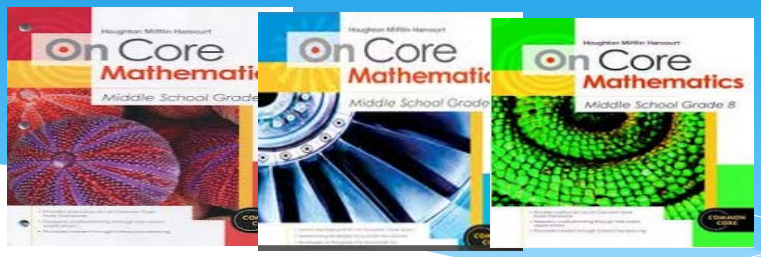
How do you know it didn't work?

Can you explain your work so far?

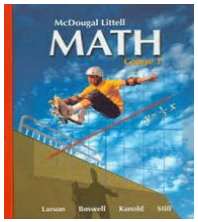
Can you explain the example from class?

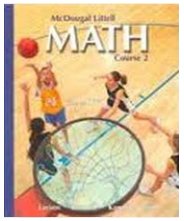
Resources

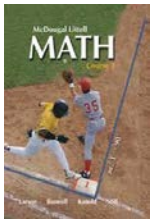
OnCore workbook



Reference textbook -McDougal Littell- distributed in Oct.







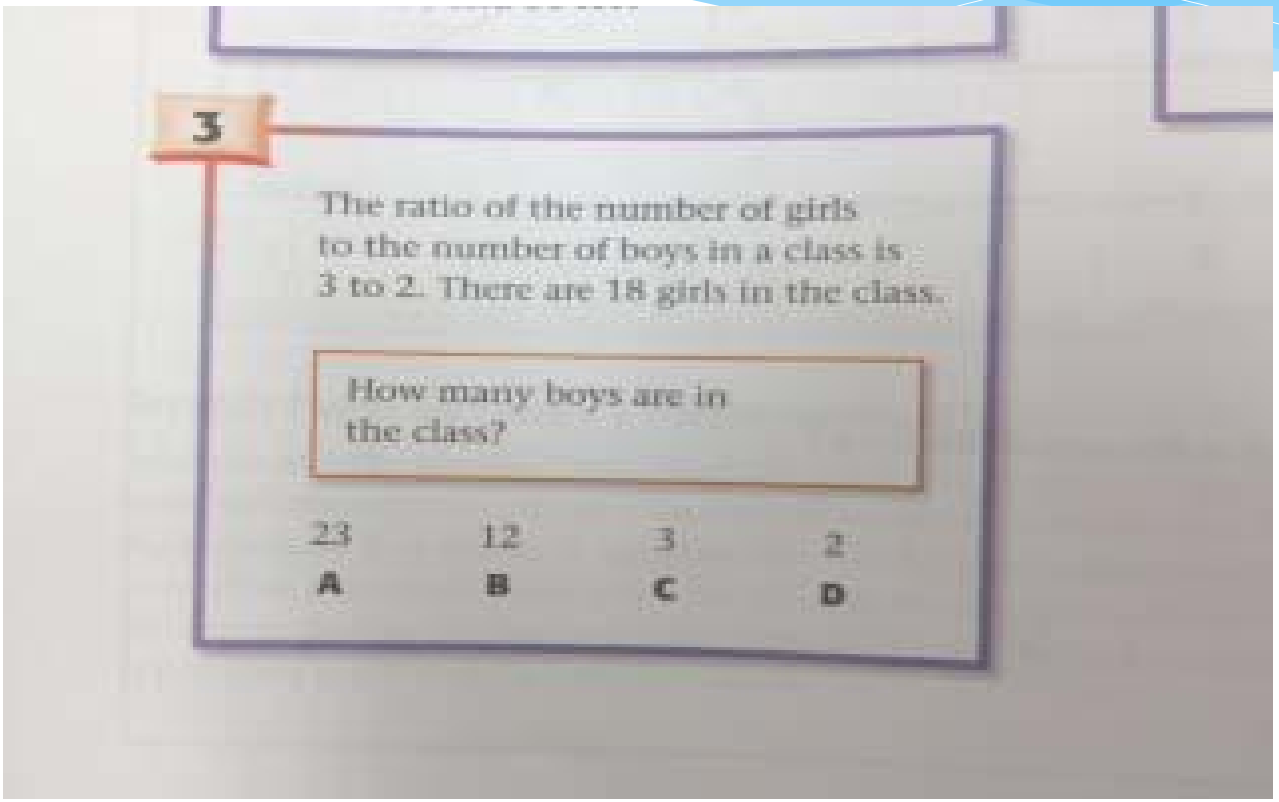
Website www.learnzillion.com - sample lessons

Website www.classzone.com - practice problems, games, animations and sample lessons

LV Electronic Filing Cabinet- practice worksheets over concepts new to the curriculum.

ISAT

Illinois Standards Achievement Test



PARCC

Partnership for Assessment of Readiness for College and Careers

Anne's family trip (grade 7)

About the task | CCSSM Alignment | **Part a** | Part b | Part c | Scoring

Anne's family is driving to her uncle's house. The family travels 383.5 miles between 10:15 a.m. and 4:45 p.m.

What is an equation that Anne can use to determine their average rate of travel for the day, R, in miles per hour? Drag the tiles to complete an equation.

383.5	6.5	10.25	4.75
+	−	•	÷

[ ] [ ] [ ] = R

Submit Answer

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◀ About the task CCSSM Alignment Part a **Part b** Part c Scoring ▶

Anne's family is driving to her uncle's house. The family travels 383.5 miles between 10:15 a.m. and 4:45 p.m.

Calculate the family's average rate of travel for the day. Then fill in the blank to complete the following statement. You can enter a whole number or a decimal rounded to the nearest tenth.

The family's average rate of travel for the day is _____ miles per hour.

Submit Answer

PARCC

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About the task | CCSSM Alignment | Part a | Part b | **Part c** | Scoring

Anne's family is driving to her uncle's house. The family travels 383.5 miles between 10:15 a.m. and 4:45 p.m.

Anne tells her family, "It's a good thing we traveled as fast as we did. If our rate had been 50 miles per hour, we wouldn't have gotten to his house until about..."

Fill in the blank to complete the following statement.

If their average rate had been 50 miles per hour, Anne's family would have arrived at her uncle's house at [ ] : [ ] p.m.

Submit Answer

Essential Questions/Big Ideas

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Additional Resources

* Council of the Great City Schools Parent Roadmaps:
- Math
* http://www.cgcs.org//site/Default.aspx?PageID=244
- ELA / Literacy
* http://www.cgcs.org/Page/328
- National Parent Teachers Association (PTA)
  http://pta.org/parents/content.cfm?ItemNumber=2583
- Achieve the Core
* www.achievethecore.org
- Common Core State Standards Text Exemplars
* http://www.corestandards.org/assets/Appendix_B.pdf

* Questions?