PARENT MATH NIGHT

Welcome!

Math at Lake Country School

- student performance data
- supporting resources
- placement options

Source: Wisconsin Department of Public Instruction

SRCDetail_Secure_Lake_Country_School_2016-17_1326-1307 (3).PDF - Adobe Acrobat Reader DC

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PRELIMINARY - SECURE REPORT - NOT FOR PUBLIC RELEASE November 17th, 2017

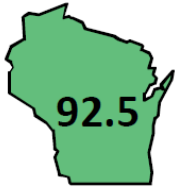
WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION

Lake Country School

Lake Country | Public - All Students

School Report Card | 2016-17 | Summary

Overall Score



★★★★★

Significantly Exceeds Expectations

Overall Accountability Ratings	Score
Significantly Exceeds Expectations	83-100 ★★★★★
Exceeds Expectations	73-82.9 ★★★★☆
Meets Expectations	63-72.9 ★★★☆☆
Meets Few Expectations	53-62.9 ★★☆☆☆
Fails to Meet Expectations	0-52.9 ★☆☆☆☆

School Information

Priority Areas	School Score	Max Score	K-8 State	K-8 Max
Student Achievement	**99.2/100**		**67.3/100**	
English Language Arts (ELA) Achievement	49.2/50		34.5/50	
Mathematics Achievement	50.0/50		32.8/50	
School Growth	**85.1/100**		**66.0/100**	
English Language Arts (ELA) Growth	47.3/50		33.0/50	
Mathematics Growth	37.8/50		33.0/50	
Closing Gaps	**80.3/100**		**66.5/100**	
English Language Arts (ELA) Achievement Gaps	49.1/50		33.9/50	
Mathematics Achievement Gaps	31.2/50		32.6/50	
Graduation Rate Gaps	NA/NA		NA/NA	
On-Track and Postsecondary Readiness	**95.0/100**		**88.2/100**	
Graduation Rate	NA/NA		NA/NA	
Attendance Rate	76.1/80		75.3/80	
3rd Grade English Language Arts (ELA) Achievement	9.1/10		6.9/10	
8th Grade Mathematics Achievement	9.8/10		6.0/10	

Student Engagement Indicators	**Total Deductions: 0**
Absenteeism Rate (goal <13%)	Goal met: no deduction
Dropout Rate (goal <6%)	Goal met: no deduction

Wisconsin Student Assessment System Percent Proficient and Advanced

11:07 AM 11/20/2017

Source: Wisconsin Department of Public Instruction

Student Performance Over Time: Lake Country School District Report Card

School Year	OVERALL ACCOUNTABILITY SCORE	Student Achievement (100)	Student Achievement ELA (50)	Student Achievement Math (50)
2016-17	92.5	99.2	49.2	50
2015-16	90.5	96.5	46.5	50
2014-15	No public data available. In May 2015, the Governor signed SB 67, also known as "the pause bill." Additional information available at the following link: Pause Bill			
2013-14	80.9	91.6	41.6	50
2012-13	80.7	92.2	42.2	50
2011-12	82.8	92.1	42.1	50

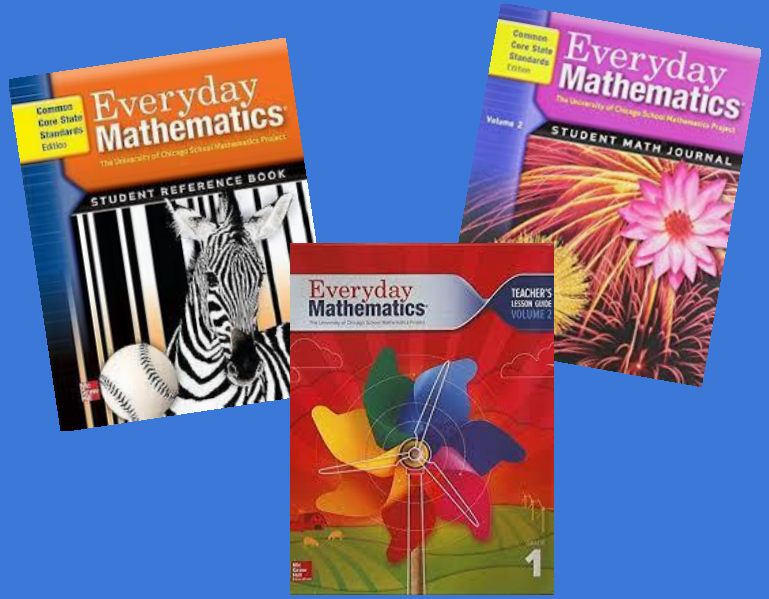
Source: WISEdash Public Portal

MATHEMATICS School Report Card Comparisons From DPI 2016-17

(*includes student performance on WKCE, Badger Exam, & Forward Exam*)

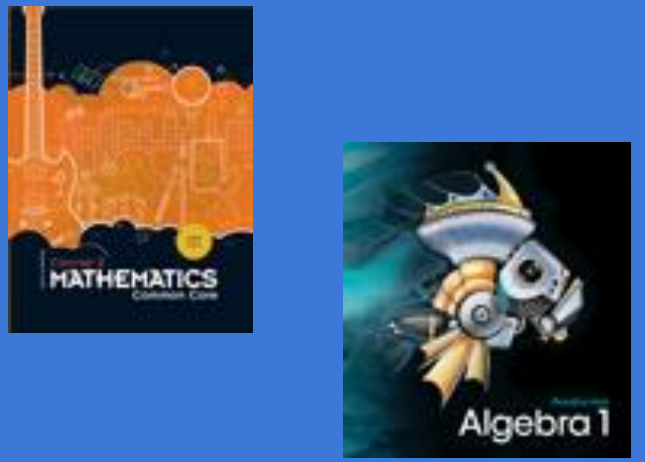
District	District Mathematics Achievement Score	District Percent Proficient or Advanced in Mathematics
Hartland-Lakeside School District	50	76.7
Lake Country School District	50	80.7
Merton Community School District	49.8	73.0
North Lake School District	49.0	74.4
Richmond School District	45.7	66.7
Stone Bank School District	48.8	72.4
Swallow School District	50	80.9

Tools for Learning



[Everyday Math]

Grades 4K-6



Pearson Math

[Grade 7]
[Grade 8]


Algebra • Geometry • Probability • Number • Measurement • Data & Statistics •
Standards for Mathematical Practice
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Standards for Mathematical Practice	Characteristics of Mathematically Proficient Students*
Make sense of problems and persevere in solving them.	**Mathematically proficient students can:** Explain the meaning of a problem and restate it in their words. Analyze given information to develop possible strategies for solving the problem. Identify and execute appropriate strategies to solve the problem. Evaluate progress toward the solution and make revisions if necessary. Explain the connections among various representations of a problem or concept. Check for accuracy and reasonableness of work, strategy and solution. Understand and connect strategies used by others to solve problems.

Supporting Resources

- Classroom based differentiation
- Pull-out reteaching/practice (RTI)
- Pull-out enrichment
- Class placement
- Acceleration

Grade 5 Mathematics	Enriched Grade 5 Mathematics
▪ Both courses focus on the Wisconsin Academic Standards for Mathematics: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations—Fractions, Measurement and Data, Geometry. ▪ Both courses use the Everyday Mathematics series as the core instructional resource.	
This course offers a flexible pace of instruction designed to reinforce concepts. Course content allows for repeated practice and application of concepts in order to develop a solid foundation.	This course offers a fast pace of instruction with fewer repetitions to master new concepts. Course content is routinely modified to include challenging math enrichment activities. Activities include Math Olympiads, real world application projects and nonroutine, open-ended problem solving.

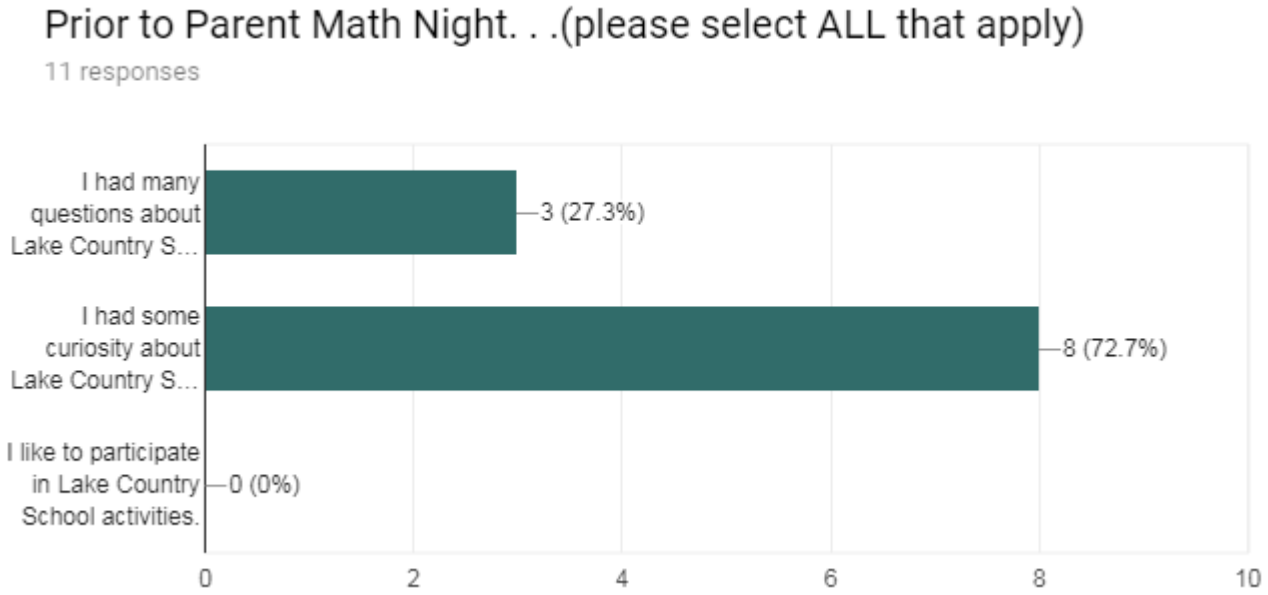
LCS Math Learner Behaviors

- ✓ Applies skills
- ✓ Articulates thinking
- ✓ Attempts all problems
- ✓ Connects concepts
- ✓ Intuitive
- ✓ Recognizes patterns
- ✓ Math mind
- ✓ Math passion
- ✓ Problem solves
- ✓ Questions incongruities
- ✓ Responsible
- ✓ Seeks understanding
- ✓ Strong performance data
- ✓ Task commitment
- ✓ Thrives on challenge
- ✓ Understands quickly
- ✓ Unique approach

Next Steps: *Grade Level Session Locations*

GRADE LEVEL	ROOM NUMBER	TEACHER'S ROOM
4K	138	Mrs. Moore
5K	126	Mrs. Hartnett
1	106	Mrs. McCormick
2	102	Mrs. Kumlien
3	141	Mrs. LaFleur
4	137	Mrs. Yehle
5	325	Mrs. Helbing
6	319	Mrs. Radomski
7	204	Mr. Fox's RTI room
8	205	Mr. Levenhagen

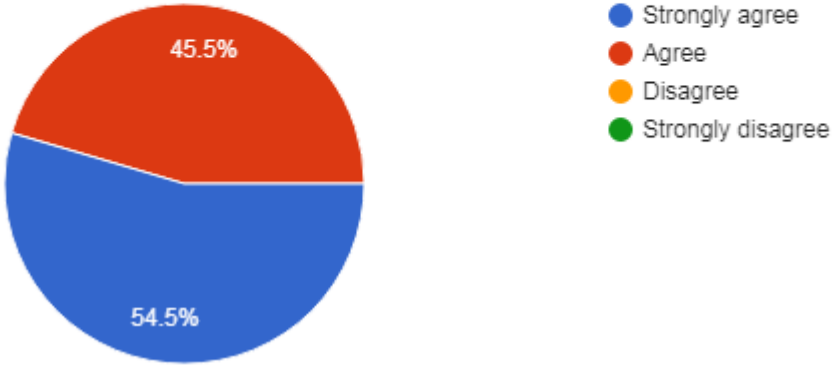
2018 Parent Math Night Survey Results - Question 1



2018 Parent Math Night Survey Results - Question 2

I have a better understanding of Lake Country School's math program as a result of attending Parent Math Night.

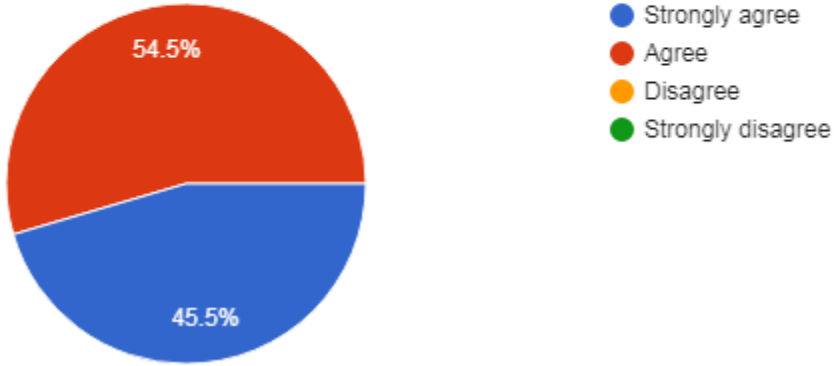
11 responses



2018 Parent Math Night Survey Results - Question 3

I have a better understanding of my child's/children's grade level math program as a result of attending Parent Math Night.

11 responses



2018 Parent Math Night Survey Results - Comments

OPTIONAL Please include any additional comments regarding Parent Math Night. If you would like someone to follow up with you, please include the following: first & last name, child's name, contact information.5 responses

- First grade was very informative!
- Please consider doing this early on in school year. Good Initiative.
- Great program. However it would be more beneficial if happened in first quarter
- I appreciated the overview of the math curriculum that my child currently is working on. I also enjoyed learning about the curriculum my child will access at the next grade level.
- Wish we had this in September! I enjoyed getting to see the next grade level for context for this years work.

4K Performance Standards

Wisconsin Model Early Learning Standards

Performance Standard - Mathematical Thinking

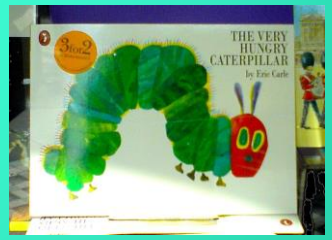
During the early childhood period, children in Wisconsin will show evidence of developmentally appropriate abilities in the following areas:

B. EL. 1	Demonstrates an understanding of numbers and counting.
B. EL. 2	Understands number operations and relationships.
B. EL. 3	Explores, recognizes, and describes shapes and spatial relationships.
B. EL. 4	Uses the attributes of objects for comparison and patterning.
B. EL. 5	Understands the concept of measurement.
B. EL. 6	Collects, describes, and records information using all senses.

Lesson Demonstration

Using "The Very Hungry Caterpillar" by Eric Carle as a literacy tie in, parents will use number sense and one-to-one correspondence to understand the 3 Aspects of Numbers: Quantitative(*****), Verbal("five") and Symbolic(5).

(WMELS Standard B. EL. 1)



5K Math
Building the foundation

Sorting

Measurement and Data

Classify objects and count the number of objects in each category.
CCSS.MATH.CONTENT.K.MD.B.3

- Classify objects into given categories; count the numbers of objects in each category and sort the categories by count

Why is Sorting Important?

Develops ability to

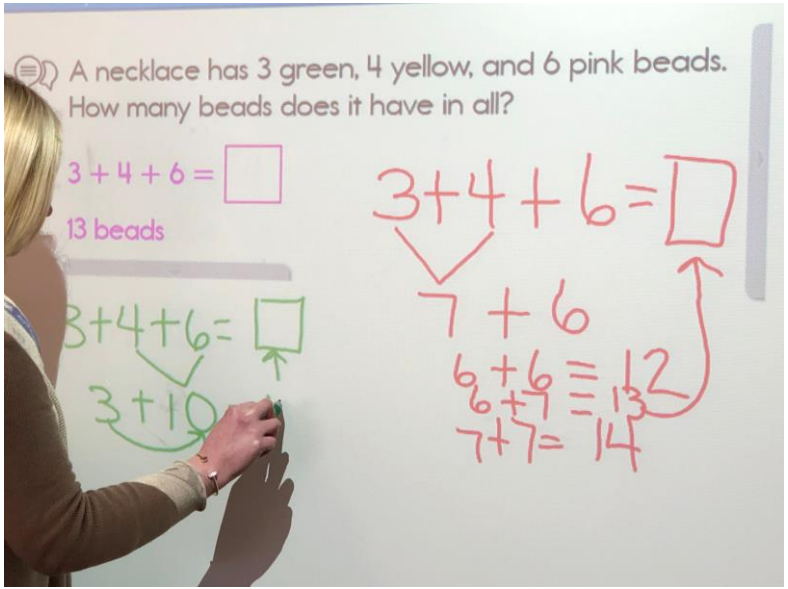
- Recognize common and distinct attributes-mathematical structures and patterns
- Make generalizations across categories
- Identify, create, and justify rules and generalizations

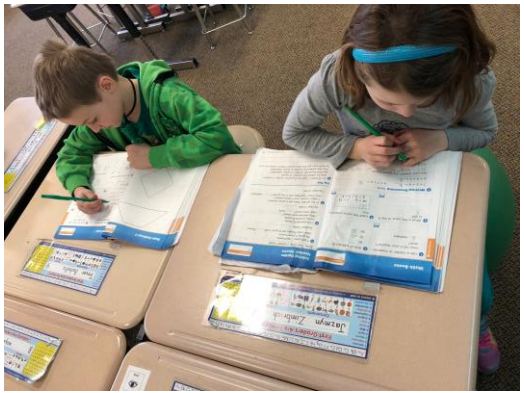
Sorting is an important foundation for algebra, data analysis, and geometry.

First Grade Math

First Grade Wisconsin State Standards for Math can be found at:

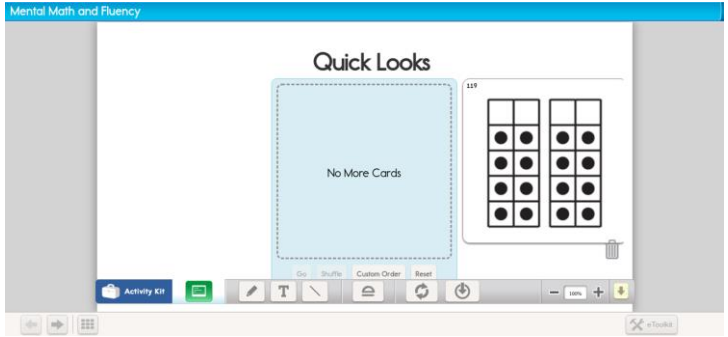
http://www.corestandards.org/Math/Content/1/introduction/





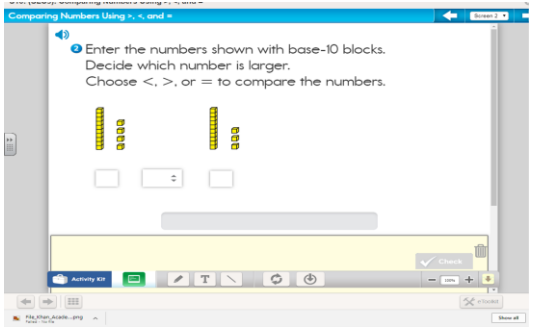
Typical lesson includes a warm-up, focus, practice and differentiation.

1



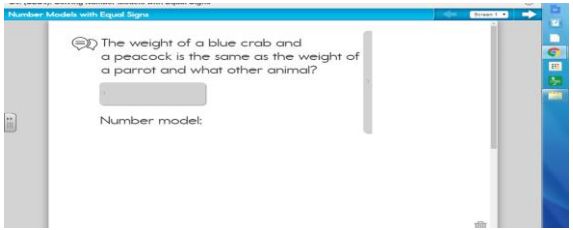
Warm-up with mental math and fluency problems.

3



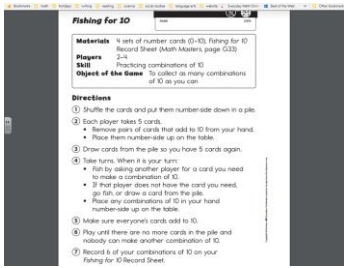
Practice using manipulatives.

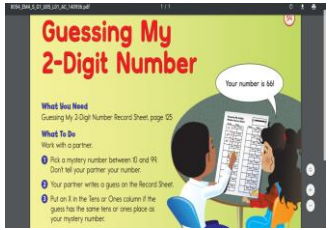
2



Focus of the lesson. (math standard)

4





Differentiation options include readiness, practice and enrichment along with modification during instruction.

Second Grade Math

Second Grade

Common Core Standards

Add and subtract within 20.

CCSS.MATH.CONTENT.2.OA.B.2

Fluently add and subtract within 20 using mental strategies.[2] By end of Grade 2, know from memory all sums of two one-digit numbers.

Fact Fluency Strategies

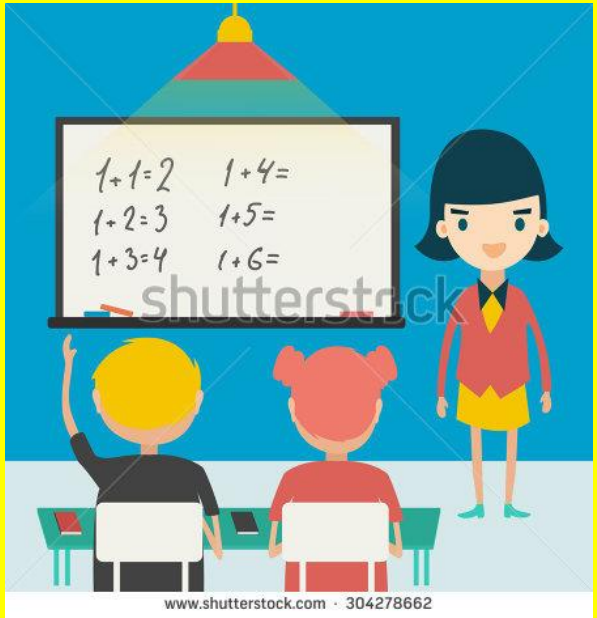
- combinations of ten (“friends of ten”)
- doubles Facts
- near doubles facts
- turn-around Facts
- think addition (subtraction)
- going through ten

Applying Fact Fluency For Numbers Greater Than 20

- counting on (addition)
- counting back (subtraction)
- going through ten
- open number line

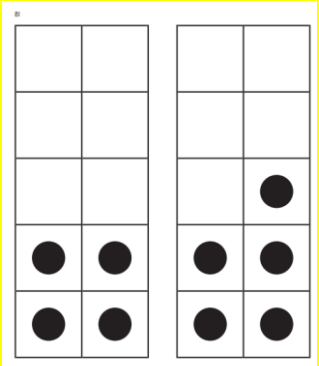
Second Grade: Daily Lesson

1. Calendar, Weather, Temperature
2. Mental Math
3. Math Warm Up-Sneak Peek of the concept
4. Guided Practice
5. Independent Practice
6. Games for fact fluency and differentiation

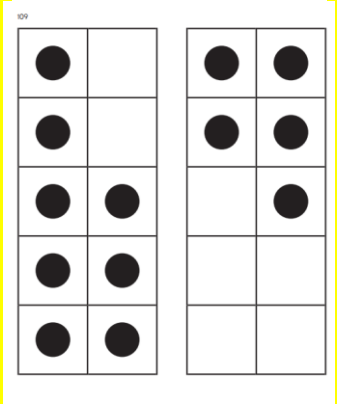


Quick Look Cards: Subitizing

Subitizing is the ability to ‘see’ a small amount of objects and know how many there are without counting. Subitizing is what tells you what number you roll on a six sided dice – most adults no longer have to count the pips after playing board games for a while.



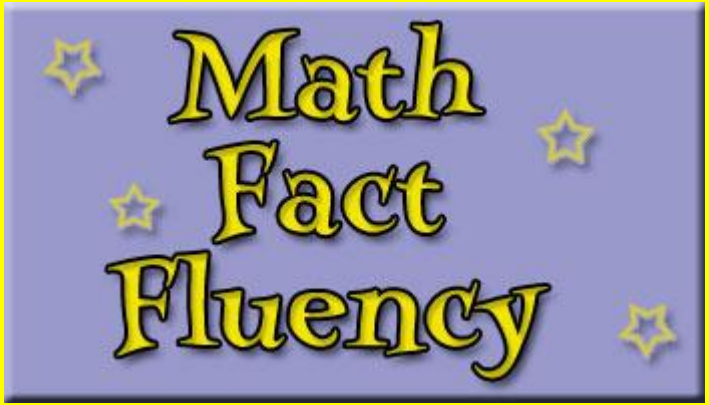
Sample answer: I saw 4 and 4 more and I moved 1 more, so that makes 9. 4+5=9



Sample answer: I moved 2 over to make one ten frame, and left 3, so there are 13 in all. 8+5=13

Fact Fluency Strategies

- combinations of ten (“friends of ten”)
- doubles Facts
- near doubles facts
- turn-around Facts
- think addition (subtraction)
- going through ten



Welcome to Third Grade Math

http://www.corestandards.org/Math/Content/7/introduction/

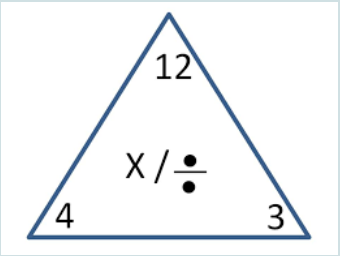
Our 5 Domains of Study

1. Operations and Algebraic Thinking
2. Number and Operations in Base Ten
3. Number and Operations - Fractions
4. Measurement and Data
5. Geometry

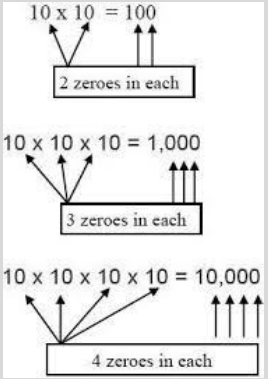
Operations & Algebraic Thinking

1. Problem solving using all four operations
2. Testing reasonability of answers
3. Estimation and rounding
4. **Memorization of multiplication facts**
5. Understanding the relationship between multiplication and division
6. Mental math
7. Identify and explain patterns
8. Using more than one algorithm (step-by-step method) to solve a problem

$$5 \times b = 10$$



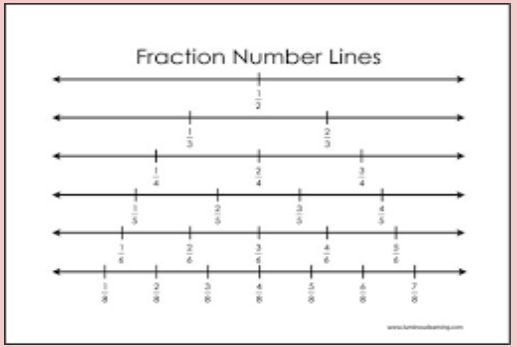
Number Operations in Base Ten

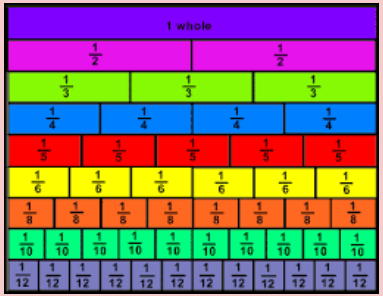


1. Use place value to round whole numbers
2. Add and subtract within a 1000 using place value
3. Understand the relationship between adding and subtracting
4. Multiply using multiples of 10 based on place value (fact extensions)
5. Use various algorithms

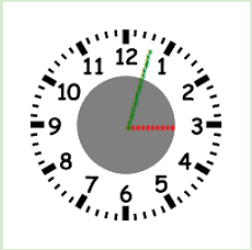
Numbers and Operations - Fractions

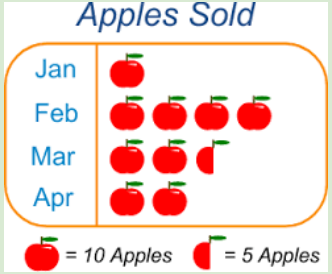
1. Understand fractions are formed when whole is partitioned into equal parts
2. Use number lines to represent fractions
3. Explain and generate simple equivalent fractions
4. Compare fractions by reasoning their size
5. Express whole numbers as fractions
6. Record comparisons between fractions using inequality signs



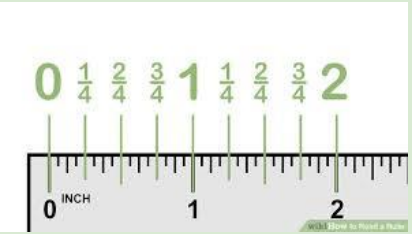


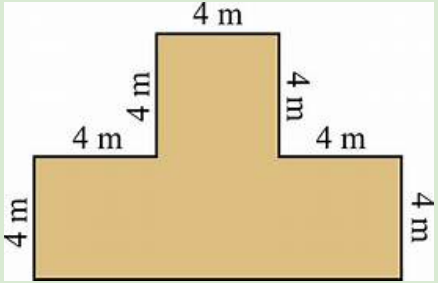
Measurement and Data





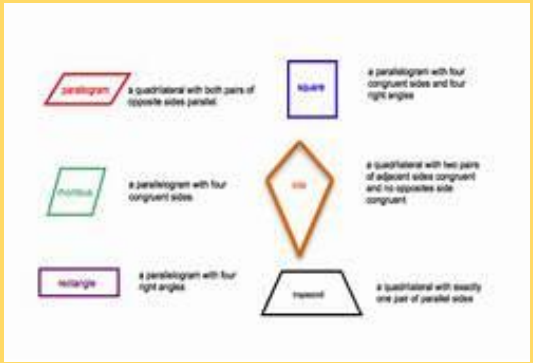
1. Tell and write time to nearest minute
2. Draw a picture graph and bar graph to represent data; solve one and two step problems based on graph data
3. Measure to the nearest ½ and ¼ inch using a ruler
4. Measure and estimate liquid volumes and masses of objects using metric units; solve one and two step word problems involving masses or volume
5. Solve real world problems involving perimeter of polygon; find missing lengths of a side
6. Using multiplication to calculate area
7. Explore rectangles with same perimeter but different areas as well as same area different perimeters

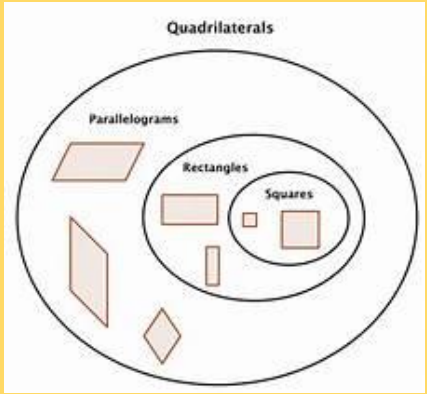


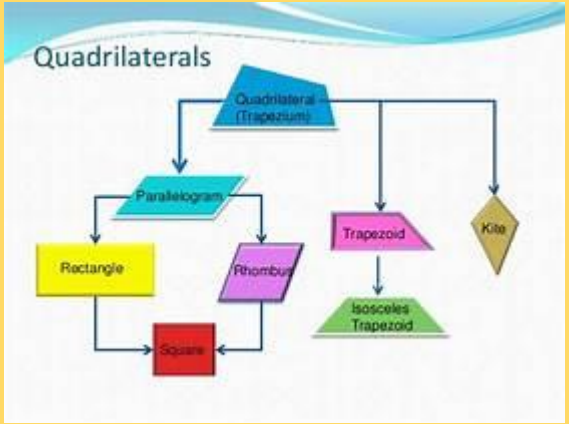


Geometry

1. Understand 2-D shapes and be able to classify them into categories (rhombuses, rectangles, parallelograms, etc)
2. Be able to share attributes/characteristics of categories. (quadrilaterals, polygons, symmetrical, etc.)
3. Explore area by partitioning shapes into equal parts with the same area



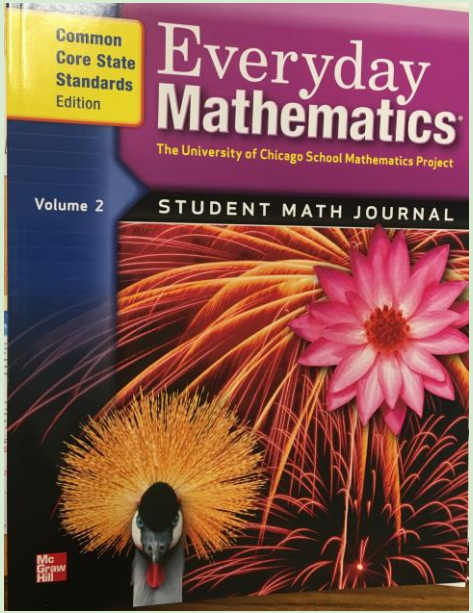




On-Going Expectations in our Daily Lessons

1. Problem solving - making sense of a problem and then checking reasonability of the answer
2. Modeling of various problem solving strategies (work backward, draw a picture, make a chart to record information, guess and check, etc.)
3. A strong use of math vocabulary with an expectation for them to learn these words and use them when speaking and writing about math
4. An expectation that students be able to explain their solution in both speaking and writing
5. Teaching students to look for patterns in math
6. Use manipulatives (hands-on tools) to explain math concepts

4th Grade Everyday Math



Everyday Math

- Math Boxes
- Classwork
  - Individual
  - Partner & Group work
  - Games
- Home Link
- Assessment

Common Core Standards

Click above to go to an introduction to 4th grade standards.

Unit 6 Organizer

Division; Angles

In this unit, students explore the relationship between multiplication and division by developing a method for dividing whole numbers and solving division number stories. They are introduced to protractors and explore using them to measure and construct angles.

CCSS Standards for Mathematical Content

Domain	Cluster
Operations and Algebraic Thinking	Use the four operations with whole numbers to solve problems. Gain familiarity with factors and multiples. Generate and analyze patterns.
Number and Operations in Base Ten	Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations—Fractions	Build fractions from unit fractions.
Measurement and Data	Geometric measurement: understand concepts of angle and measure angles.

Because the standards within each domain can be broad, *Everyday Mathematics* has unpacked each standard into Goals for Mathematical Content GMC. For a complete list of Standards and Goals, see page EM1.

For an overview of the CCSS domains, standards, and mastery expectations in this unit, see the **Spiral Trace** on pages 536–537. See the **Mathematical Background** (pages 538–540) for a discussion of the following key topics:

- Strategies for Division and Partial Quotients
- Expressing and Interpreting Remainders
- Measuring Angles
- Fraction Concepts

CCSS Standards for Mathematical Practice

SMP5	Use appropriate tools strategically.
SMP7	Look for and make use of structure.

For a discussion about how *Everyday Mathematics* develops these practices and a list of Goals for Mathematical Practice GMP, see page 541.

Virtual Learning Community Go Online to vlc.cemseprojects.org to search for video clips on each practice.

Long Division

Mental Math is logical.

Mental Math encourages actual understanding, not just memorization.

Mental Math

Doing math calculations in your head without the use of tools such as calculators or pen and paper.
Mental math actually keeps our brains quick and sharp. The brain, like the muscles, gets stronger and more efficient with use.

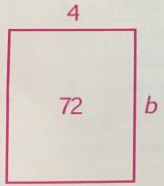
70 x 3 = 210
500 x 30 = 15,000

240 / 60 = 4
8,100/ 90 = 90

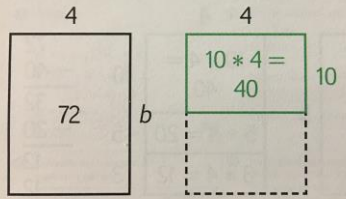
Division

Step 1: Draw a rectangle to represent the number story.

Sample answer:



Step 2:

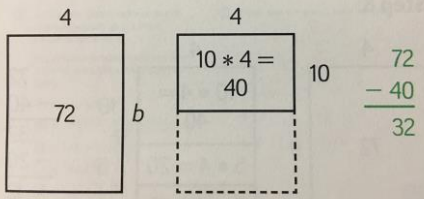


Step 1: Display the problem in the traditional form: $4\overline{)72}$. Include a vertical line to separate the subtractions from the partial quotients. GMP7.2

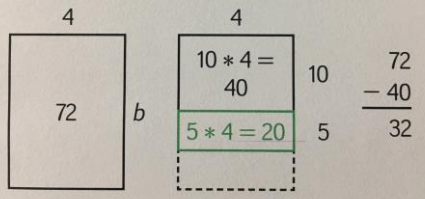
$4\overline{)72}$ |

Step 2: Use a series of "at least/not more than" easy multiples of the divisor. Ask: *Are there at least 10 [4s] in 72?* Yes. $10 * 4 = 40$ and $40 < 72$.
Are there at least 20 [4s] in 72? No. $20 * 4 = 80$ and $80 > 72$.

Step 3:



Step 4:



Step 3: Find out how much is left to divide. Subtract 40 from 72.

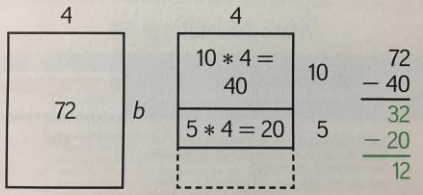
4)72	
− 40	**10**
32	

Step 4: Find the number of 4s in 32. Again use easy multiples of the divisor that are "at least/not more than." For example, ask: *Are there at least 10 [4s] in 32?* No. $10 * 4 = 40$, and $40 > 32$. *Are there at least 5 [4s] in 32?* Yes. $5 * 4 = 20$, and $20 < 32$.

Write $5 * 4$, or 20, under 32. Write 5 at the right. 5 is the second partial quotient.

4)72	
− 40	**10**
32	
20	**5**

Step 5:



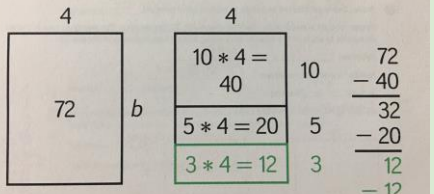
Step 5: Find out how much is left to divide. Subtract 20 from 32.

4)72	
− 40	**10**
32	
− 20	**5**
12	

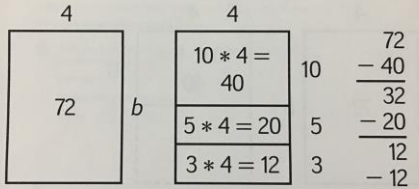
Step 6: Ask: *How many 4s are in 12?* 3 Write 3 at the right. 3 is the third partial quotient. Subtract 3 * 4, or 12, from 12.

4)72	
− 40	**10**
32	
− 20	**5**
12	
− 12	**3**
0	

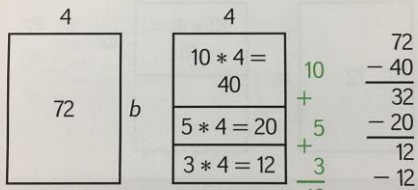
Step 6:



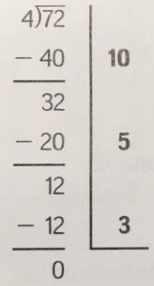
Step 7:



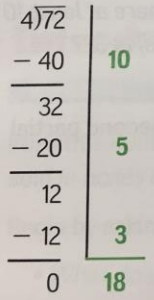
Step 8:



Step 7: The division is complete when the subtraction leaves a number less than the divisor (the divisor is 4 in this example).



Step 8: Add the partial quotients, or the number of 4s that were subtracted. The quotient is 18.



Step 9: Conclude by interpreting the answer. Bina needs 18 boxes of muffins. Ask: *Based on your estimate, is your answer reasonable?* Sample answer: Yes. 18 boxes is close to my estimate of 20.

Some students may note that another way to find the number of 4s in 32 is to use a fact family: $8 * 4 = 32$, so there are 8 [4s] in 32. Record as follows:

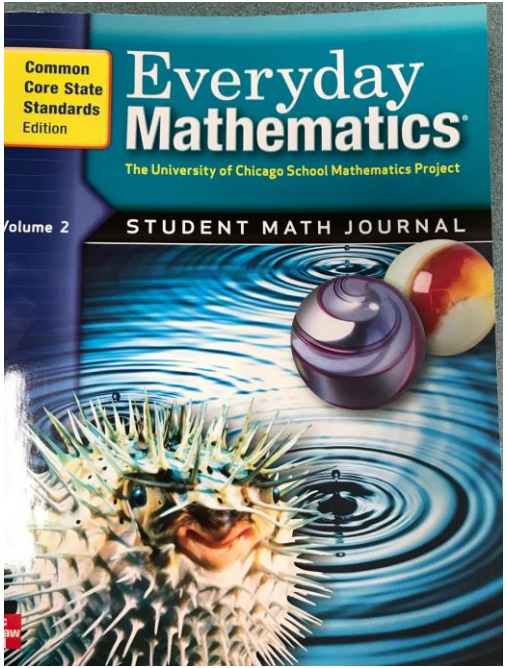
$4\overline{)72}$	
$-\ 40$	**10**
32	
$-\ 32$	**8**
0	**18**

Point out to students that both solutions yield the same final answer of 18.

$4\overline{)72}$	
$-\ 40$	**10**
32	
$-\ 20$	**5**
12	
$-\ 12$	**3**
0	**18**

$4\overline{)72}$	
$-\ 40$	**10**
32	
$-\ 32$	**8**
0	**18**

5th Grade Math



Grade 5 Overview

Operations and Algebraic Thinking

- Write and interpret numerical expressions.
- Analyze patterns and relationships.

Number and Operations in Base Ten

- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations—Fractions

- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Measurement and Data

- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Geometry

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

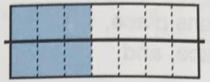
LESSON 5·4

Making Equivalent Fractions

Here is a way to model equivalent fractions. Start with a fraction stick that shows 3 out of 7 parts ($\frac{3}{7}$) shaded.

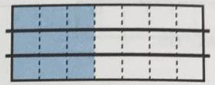
$\frac{3}{7}$

Draw a horizontal line to split each part of the stick into 2 equal parts. Now 6 out of 14 parts ($\frac{6}{14}$) are shaded. So $\frac{3}{7} = \frac{6}{14}$.



$\frac{3}{7} =$

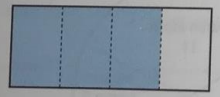
If each part of the original fraction stick is split into 3 equal parts, 9 out of 21 parts ($\frac{9}{21}$) are shaded. So $\frac{3}{7} = \frac{9}{21}$.

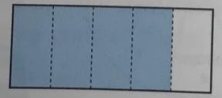


$\frac{3}{7} =$

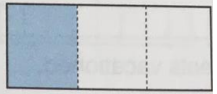
1. Draw horizontal lines to split each part of each fraction stick into 2 equal parts. Then fill in the missing numbers.

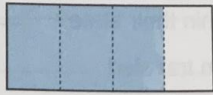
a.  $\frac{1}{3} = \frac{\square}{6}$

b.  $\frac{3}{4} = \frac{\square}{8}$

c.  $\frac{4}{5} = \frac{\square}{10}$

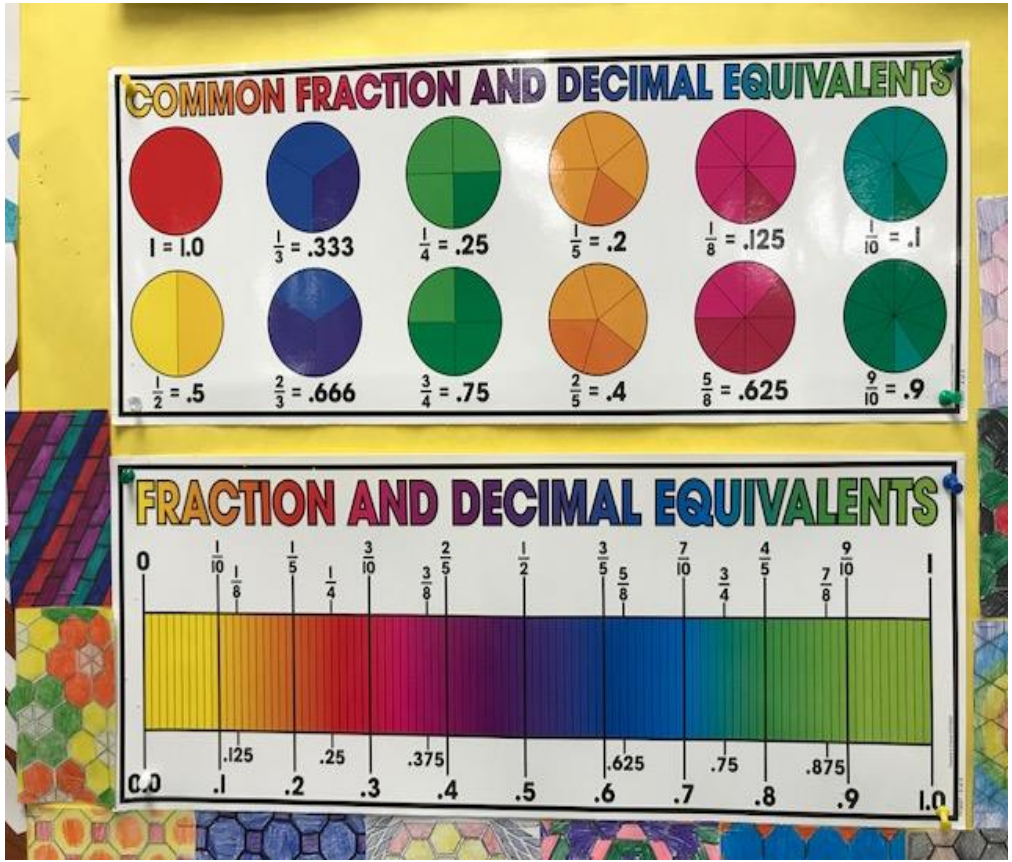
2. Draw horizontal lines to
of each fraction stick in
Then fill in the missing

a. 

b. 

c. 

3. Draw horizontal lines to split



Math Olympiad Sample Question

John has $10 on Monday and gets $2 every Sunday for allowance. Tammy has $50 on the same Monday and spends $3 every Sunday on snacks. After how many weeks will they have the same amount of money on a Monday?

Answer: 8 weeks

Strategy:

1. Create a table showing the amounts at the end of a week.
2. Create an algebraic equation: 10+2w=50-3w.
3. Consider the difference between receiving $2 and spending $3.

5th Grade Math Resources

1. Everyday Student Math Journal and Study Link Book
2. Student Reference Book
3. Everydaymath.com (Has practice problems and games)
4. IXL Fifth Grade Math Practice www.ixl.com/math/grade/fifth

6th Grade Math Night

A focus on Standards:
Common Core State Standards Initiative: grade 6

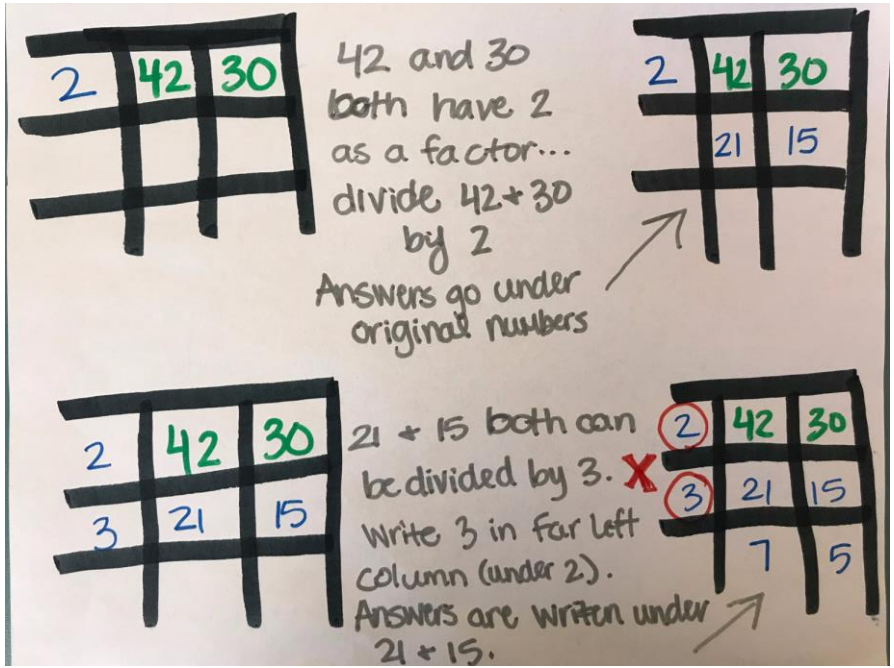
Number Systems: Standard 4 ‹ 6.NS. 4 ›

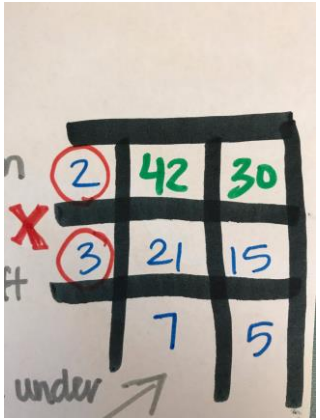
Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express the sum of two whole numbers 1- 100.

- By the end of 6th grade, students are expected to find the greatest common factor of two whole numbers less than or equal to 100.

We use a grid method to teach the greatest common factor (GCF).

GCF of 42, 30





The GCF of 42 and 30 is 6

Greatest Common Factor: Lesson in EDM Journal

1. Make a grid to help you find the GCF of 32 and 36.

   GCF (32, 36) = _____

Use the grid method to find the greatest common factors.

2. **a.** GCF (30, 45) = _____ **b.** GCF (36, 48) = _____

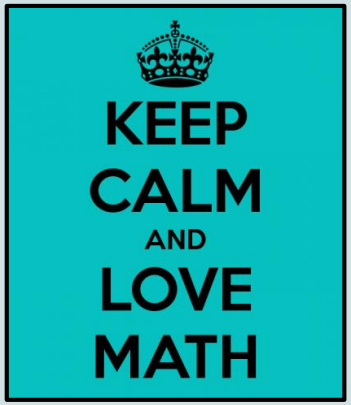
   c. GCF (55, 110) = _____ **d.** GCF (120, 144) = _____

Resources for your child at home:

Your child has their own Everyday Math website. The site includes:

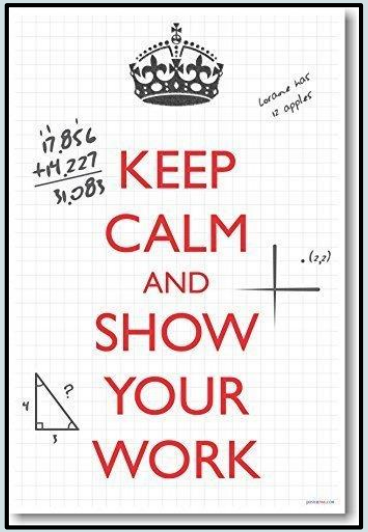
- **The day's lesson:** math lessons can be reviewed completely online. This is a great tool for absences.
- **Math tutorial videos** that correspond with each lesson.
- **The day's homelink**.
- **Online tools:** Math games and geometry tools that can be manipulated online.

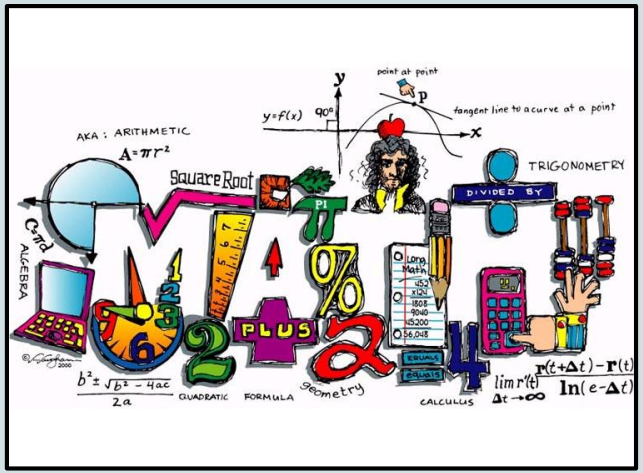
Each site is protected by a password.

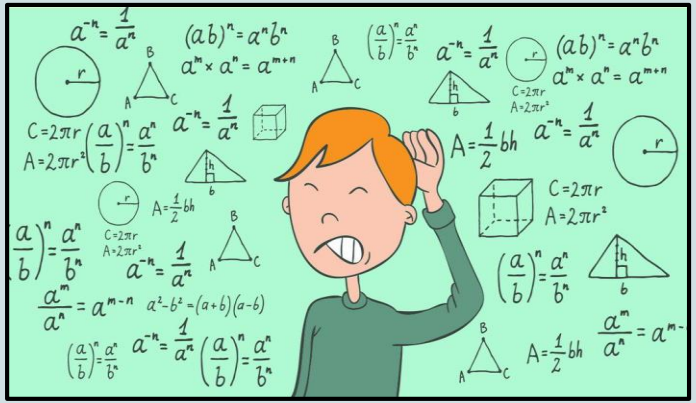


Seventh Grade

Math Night
2018







Overview of 7th Grade Wisconsin Math Standards

Ratios and Proportional Relationships

- Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations

- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry

- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Statistics and Probability

- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

A Sample “Capture, Mark, Recapture” Proportion Problem

Students are given a problem such as this:

Researchers count 48 marked deer and a total of 638 deer on a flight over an area. They know there are 105 marked deer. Write a proportion to estimate the total deer population in an area.

Students are also given this formula to work with:

$$\frac{\text{Number of Marked Organisms Counted}}{\text{Total Number of Organisms Counted}} = \frac{\text{Total Number of Marked Organisms}}{\text{Estimate of Organism Population}}$$

Capture -Mark- Recapture

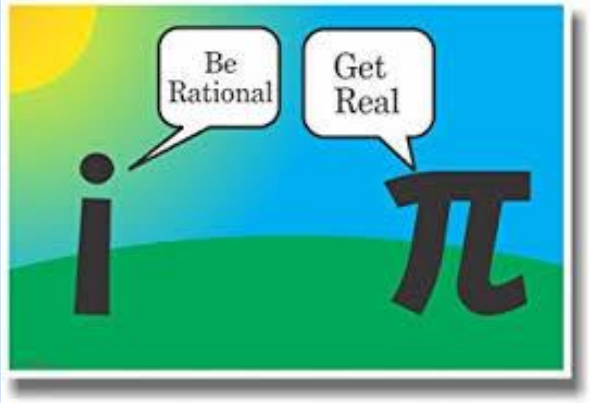
Students in 7th grade math often complete projects or hands-on activities that allow students to experience the mathematical concept in addition to understanding how mathematics is part of our everyday lives. This activity is an abbreviated example of an activity that may be done. Capture - Mark - Recapture is introduced in the "Analyzing Data" chapter but reinforces proportions, which is a year long concept taught in 7th grade.

Enrichment Group Extension Work

[Applying Assumptions to Population Studies]

8th Grade

WELCOME



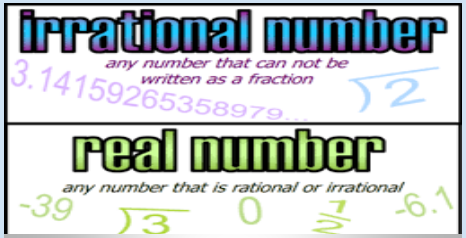
Why were the students afraid of the y-intercept?

…They thought they would be stung by the b.

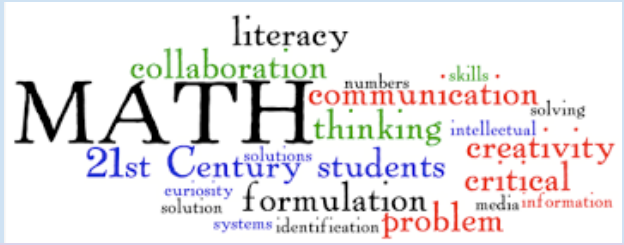
y=mx+bee

$$1 \times 1 = 1$$
$$11 \times 11 = 121$$
$$111 \times 111 = 12321$$
$$1111 \times 1111 = 1234321$$
$$11111 \times 11111 = 123454321$$
$$111111 \times 111111 = 12345654321$$
$$1111111 \times 1111111 = 1234567654321$$
$$11111111 \times 11111111 = 123456787654321$$
$$111111111 \times 111111111 = 12345678987654321$$

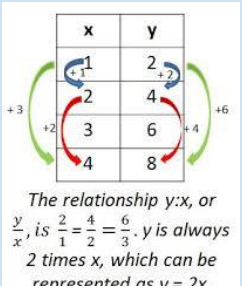
8th Grade Algebra Students Will be Able to...



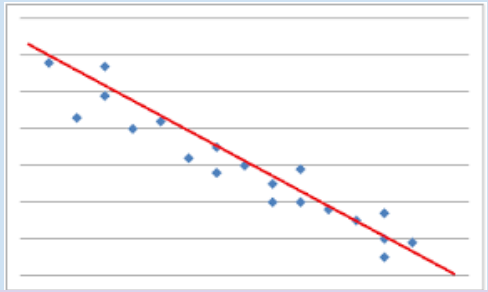
Apply Math Vocabulary



Communicate Results Clearly and Systematically



Investigate Relationships

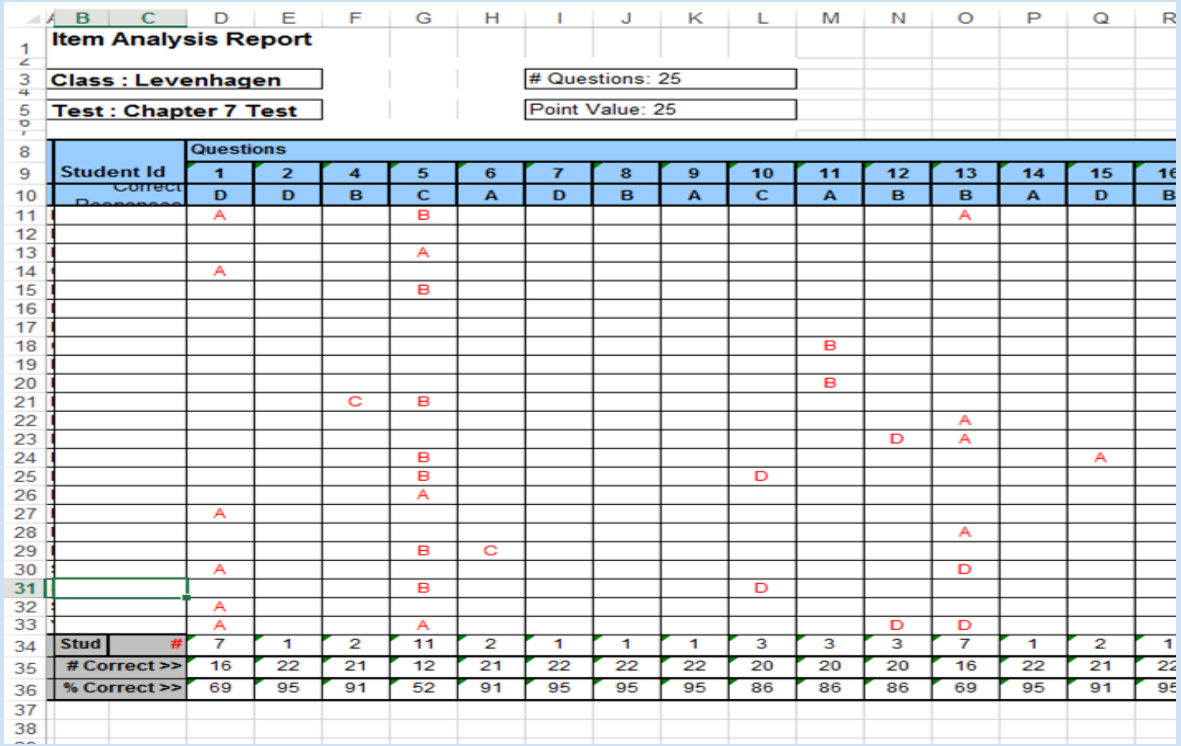


Analyze Information Through Graphs, Tables or Figures

Analyze and Solve Real-life Problems

Use Appropriate Technology to Facilitate or Enhance Learning

Formative Assessment (30%)
Item Analysis---Quick Progress Checks



Item Analysis Report

Class : Levenhagen						# Questions: 25										
Test : Chapter 7 Test						Point Value: 25										
	Questions															
Student Id	1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	
Correct Responses	D	D	B	C	A	D	B	A	C	A	B	B	A	D	B	
	A			B								A				
				A												
	A															
				B												
										B						
										B						
			C	B												
												A				
											D	A				
				B										A		
				B					D							
				A												
	A															
												A				
				B	C											
	A											D				
				B					D							
	A															
	A			A							D	D				
Stud #	7	1	2	11	2	1	1	1	3	3	3	7	1	2	1	
# Correct >>	16	22	21	12	21	22	22	22	20	20	20	16	22	21	22	
% Correct >>	69	95	91	52	91	95	95	95	86	86	86	69	95	91	95	

Summative Assessment (70%): Showing Mastery

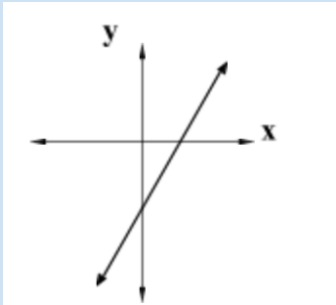
1. **Use the rate conversion model of multiplication to answer questions 14-15. Show all your work and circle your final answer..**

In the 24 hours before Valentine's Day, florists sell 30,000 roses every minute at average price of $3 per rose. Show the Rate Model conversions and **compute the value** of all the roses sold during that 24 hour time period.

2. Give two reasons why you know that this is **not** the graph of y = -2x + 1.

   a.

   b.



Mental Math Concepts

Common Core 8.EE.7. Solve linear equations in one variable.

Without solving, and without using a calculator, state whether these equations have a positive solution, a negative solution, a solution of zero, no solution or infinite solutions (identity).

a. $3x=5$ _____

b. $5z+7=3$ _____

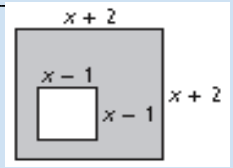
c. $7-5w=3$_____

d. $4a = 9a$_____

e. $y=y+1$ _____

f. $3x +3=5-2+3x$ _____

Common Core: Multiplying and Simplifying Polynomials.
Without a calculator, find the area of the shaded region and write your answer in standard form.



Find the missing polynomial:

$(2x^2 + 3x - 1) + (\quad) = 2x^3 + 5x^2 + 2x - 1$

Using the Calculator to Solve Problems

$$P = L[c(1 + c)^n]/[(1 + c)^n - 1]$$

The following formula is used to calculate the fixed monthly payment (P) required to fully amortize a loan of L dollars over a term of n months at a monthly interest rate of c. [If the quoted rate is 6%, for example, c is .06/12 or .005].

What if I wanted to buy a house and needed to borrow $250,000. I could get the loan for 3.4% interest. I would want to pay the loan off in 15 years. What would be my monthly payment?

What would L equal? _____

What would c equal? _____

What would n equal? _____

Rewrite the formula with all the numbers plugged in

Working With Graphing Tools

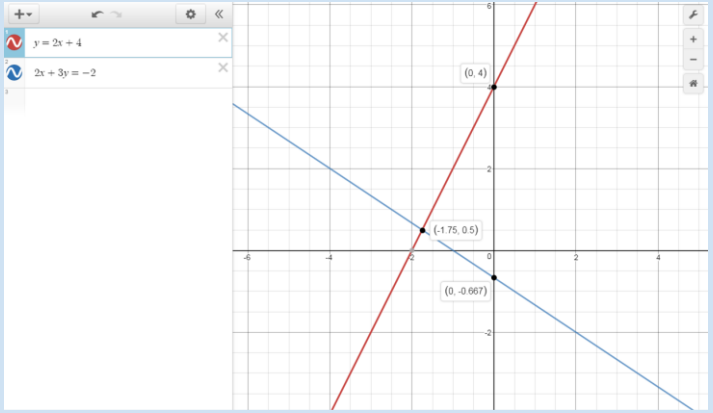
Algebra Standards

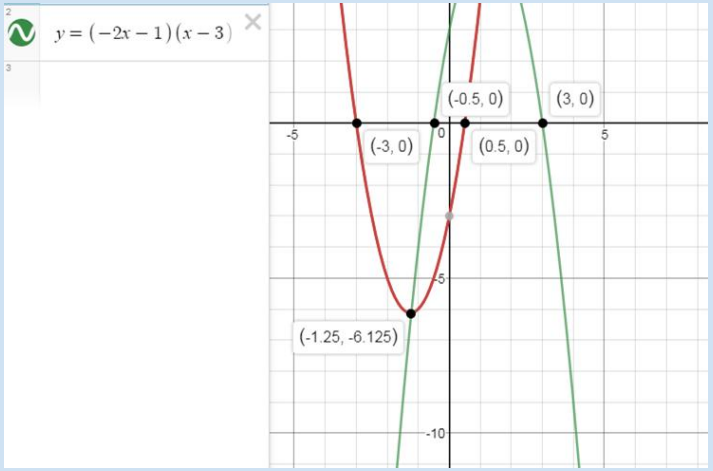
CCSS.MATH.CONTENT.HSA.REI.C.6

Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

CCSS.MATH.CONTENT.HSA.CED.A.2

Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.





Working With Spreadsheets

CCSS.MATH.CONTENT.HSA.REI.D.11

Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*

Name _____

1. Situation 1:
   a. You put $10,000.00 in your closet today and add $10,000.00 per year until you retire at the age of 64.
   b. You put the $10,000.00 in a retirement account that averages 10% interest each year, as soon as you leave school today, and forget about! Don't do a thing to it! Don't add another penny---EVER!

Calculate: How much will a have in ten years? _____

How much will b have in ten years? _____

Graph a and b on the same graph. Use increments of 5 for the x values.

What will be the excel formula for a?_____

What will be the excel formula for b? _____

How much will a have in 40 years (when you are 54 years old)? _____

How much will b have in 40 years? _____

Approximately how old will you be when b catches a? _____

How much will b get you when you are 60 years old? _____

What if you wait until you are 70? _____

2. Situation 2:
   a. You start with $10,000 and lose 20% per year for x years
   b. You start with $10,000 and lose $500 per year for x years

Estimate: How much will a have in 5 years? _____

How much will b have in 5 years? _____

Graph the two situations on the same graph and use increments of one year on the x value for 25 years.

What will be the excel formula for a?_____

What will be the excel formula for b? _____

Explain how the lines compare?

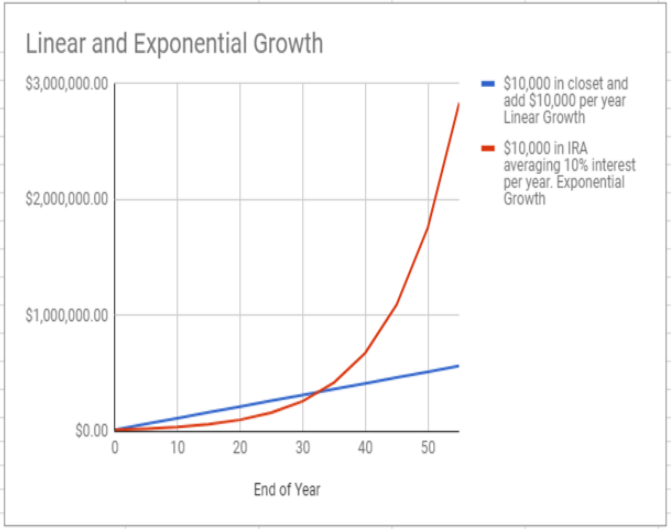
When will b be at zero dollars? _____

How much value will b have when a reaches zero? _____

When will a and b be equal? _____

Attach the 2 graphs into one word document. Make sure you have proper title and axis labels.

	A	B	C
1		$10,000 in closet and add $10,000 per year	$10,000 in IRA averaging 10% interest per year.
2	End of Year	Linear Growth	Exponential Growth
3	0	$15,000.00	$15,000.00
4	5	$65,000.00	$24,157.65
5	10	$115,000.00	$38,906.14
6	15	$165,000.00	$62,658.72
7	20	$215,000.00	$100,912.50
8	25	$265,000.00	$162,520.59
9	30	$315,000.00	$261,741.03
10	35	$365,000.00	$421,536.55
11	40	$415,000.00	$678,888.83
12	45	$465,000.00	$1,093,357.26
13	50	$515,000.00	$1,760,862.79
14	55	$565,000.00	$2,835,887.14



Track for LCS Math Students Going to Arrowhead High School

8th	**8th Grade *Common Core Algebra***:		**8th Grade *Common Core Algebra Plus*:** *Must pass an end of the course algebra test to move onto geometry and advanced algebra*	
9th	**One Year Algebra or Algebra B (second half of algebra)**	**Algebra B/Geometry block or Geometry** *(Prerequisite of a proficient score on the end of the year algebra exit test)*	**Geometry and Adv. Algebra block or concurrently** *(Prerequisite of an advanced score on the end of the year algebra exit test)*	**Geometry and concurrent Advanced Algebra/ Trigonometry *(on track to take A.P. Calculus BC)***
10th	**Geometry Or Geometry and Advanced Algebra Block**	**Advanced Algebra**	**Functions**	**Trig/Precalculus and/or A.P. Stats**
11th	**Advanced Algebra Or Functions**	**Functions**	**Precalculus and/or A.P. Statistics**	**Calculus and Applications and/or A.P. Stats**
12th	**Functions or Advanced Math & Stats**	**Precalculus and/or A.P. Statistics**	**A.P. Calculus AB and/or A.P. Statistics**	**A.P. Calculus BC and/or A.P.Stats**

The goal is for your child to master algebra and stay engaged in math, not to push through the curriculum quickly just to get it done.

Teacher: “What is seven Q plus three Q?”

Student: “Ten Q”

Teacher: “You’re Welcome”

TenQ For Coming!!