SFUSD Math Core Curriculum

Grade 5 Homework 

Unit 5.0 Introduction
Unit 5.1 Whole Number Multiplication and Division
Unit 5.2 Decimal Number System
Unit 5.3 Addition and Subtraction of Decimals and Fractions

Unit 5.0 Introduction

Homework 

Fifth Grade Family Letter

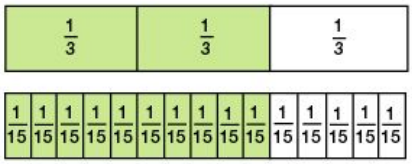
Unit 0: Introduction to Grade 5

Welcome to Fifth Grade Mathematics.

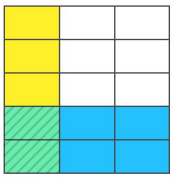
We are excited to be using a math curriculum based on current standards and reflecting research-based teaching practices. Education is always evolving to prepare our students for a future that will likely be quite different from today. As such, we strive to build a strong foundation in problem solving, conceptual understanding, and procedural fluency. Topics will be taught so that they build on previous understanding and prepare students for future math learning.

In Grade 5 we will be focusing on three critical content areas:

1. Developing proficiency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions). This includes:
   - Using equivalent fractions as a strategy to add and subtract fractions. (e.g. $\frac{2}{3} + \frac{2}{15} = \frac{10}{15} + \frac{2}{15} = \frac{12}{15}$)

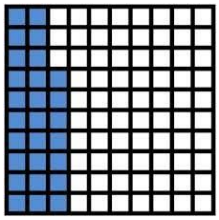


$\frac{2}{3} = \frac{10}{15}$



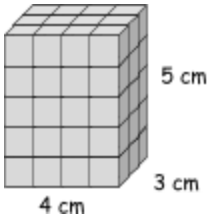
   - Applying and extending previous understandings of multiplication and division to multiply and divide fractions. (e.g. using an area model to show that $\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$)

2. Extending division to two-digit divisors, integrating decimal fractions into the place value system, developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations. This includes:
   - Deepening understanding of the place value system.
   - Performing operations with multi-digit whole numbers and with decimals to hundredths.



→ ÷10	→ ÷10	→ ÷10	→ ÷10	→ ÷10	→ ÷10	→ ÷10
Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
← x 10	← x 10	← x 10	← x 10	← x 10	← x 10	← x 10

3. Developing understanding of volume.
   - Understanding concepts of volume and relating volume to multiplication and addition.



In addition to these focus areas, students will work with writing and interpreting numerical expressions, analyzing patterns and relationships, developing fluency with multi-digit multiplication, graphing points on the coordinate plane to solve real-world and mathematical problems, and classifying two-dimensional figures into categories.

For the first five days of the school year we will be working in Unit 0. In Unit 0 we will be establishing important routines and procedures that will support math learning throughout the year.

Math Norms
Unit 0 lays the groundwork for what it means to be a math learner and a member of a math community. Math Norms support an environment that promotes group work and meaningful discussion.

Errors are gifts that promote discussion.

Answers are important, but they are not the math.

Talk about each other's thinking.

Ask questions until ideas make sense.

Use multiple strategies and multiple representations.

Math Talks
Math Talks are teacher-led, student-centered techniques for building math thinking and academic discourse. They allow for multiple entry points and encourage students to value the thinking of others so that they can build a better understanding of their own thinking. Math Talks support students in developing their mental math skills.

Rich Math Tasks
A rich math task is part of a balanced approach to mathematics that includes conceptual understanding, problem-solving, and procedural fluency, and offers every student opportunities to engage in meaningful, rigorous mathematics. A rich math task takes time to solve and lends itself to collaboration and multiple perspectives. These tasks create the context in which students build multiple representations and communicate their reasoning. Most of the math tasks are designed for group or partner work.

Math Notebooks
Students will use their math notebooks regularly to develop their understanding of concepts and extend that understanding with multiple representations and precise mathematical vocabulary.

Partner/Group Work
Students will work a lot with partners and groups throughout the year. Students will be developing skills in effectively communicating their mathematical thinking to others and building on the thinking of others. They will also have opportunities to defend their ideas and critique the reasoning of others.

The following page has some ideas for ways you can help your child with their homework.

Standards for Mathematical Practice

Family Guide

As your son or daughter works through homework exercises, you can help him or her develop skills with these Math Practice Standards by asking some of these questions:

- **Make sense of problems and persevere in solving them.**
  - What are you solving for in the problem?
  - Can you think of a problem that you have solved before that is like this one?
  - How will you go about solving it? What's your plan?
  - Are you making progress toward solving it? Should you try a different plan?
  - How can you check your answer? Can you check using a different method?

- **Reason abstractly and quantitatively.**
  - Can you write or recall an expression or equation to match the problem situation?
  - What do the numbers or variables in the equation refer to?
  - What's the connection among the numbers and the variables in the equation?

- **Construct viable arguments and critique the reasoning of others.**
  - Tell me what your answer means.
  - How do you know that your answer is correct?
  - If I told you I think the answer should be (*offer a wrong answer*), how would you explain to me why I'm wrong?

- **Model with mathematics.**
  - Do you know a formula or relationship that fits this problem situation?
  - What's the connection among the numbers in the problem?
  - Is your answer reasonable? How do you know?
  - What does the number(s) in your solution refer to?

- **Use appropriate tools strategically.**
  - What tools could you use to solve this problem? How can each one help you?
  - Which tool is more useful for this problem? Explain your choice.
  - Why is this tool (*the one selected*) better to use than (*another tool mentioned*)?
  - Before you solve the problem, can you estimate the answer?

- **Attend to precision.**
  - What do the symbols that you used mean?
  - What units of measure are you using? (*for measurement problems*)
  - Explain to me (*a term from the lesson*).

- **Look for and make use of structure.**
  - What do you notice about the answers to the exercises you've just completed?
  - What do different parts of the expression or equation you are using tell you about possible correct answers?

- **Look for and express regularity in repeated reasoning.**
  - What shortcut can you think of that will always work for these kinds of problems?
  - What pattern(s) do you see? Can you make a rule or generalization?

Name _____ Date: _____

Unit 5.0 Day 1 Homework: Write a letter to your teacher.

Write a letter to your teacher telling them how you like learning math and what 3 goals you have for math this year.

Dear Teacher,

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Sincerely,

Name _____ Date: _____

One Dollar Word Riddles HW

Value of Letters

a = $0.01	h = $0.08	n / ñ = $0.14	t = $0.20
b = $0.02	i = $0.09	o = $0.15	u = $0.21
c = $0.03	j = $0.10	p = $0.16	v = $0.22
d = $0.04	k = $0.11	q = $0.17	w = $0.23
e = $0.05	l = $0.12	r = $0.18	x = $0.24
f = $0.06	m = $0.13	s = $0.19	y = $0.25
g = $0.07			z = $0.26

1. Use the value of letters chart to find the value of the first and last name of each person in your family.

2. Bonus: What is the total value of all your family members' names?

3. Find the value of 10 different color words.

4. What's the most expensive color you can find?

Name: _____ Date: _____

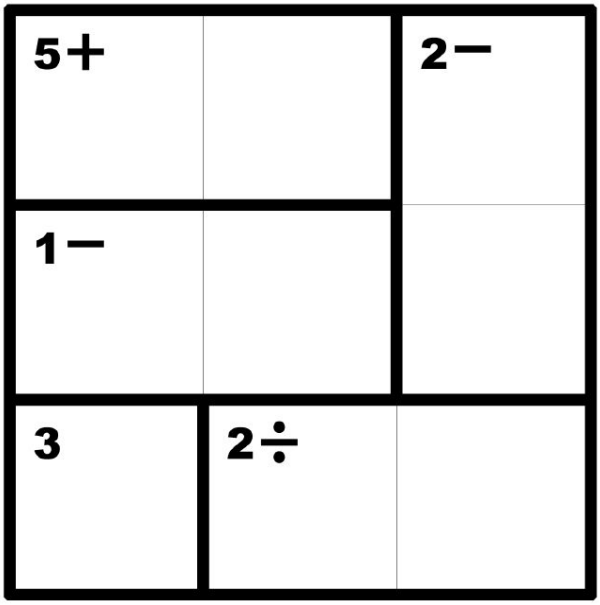
$3 \times 7 = 21$

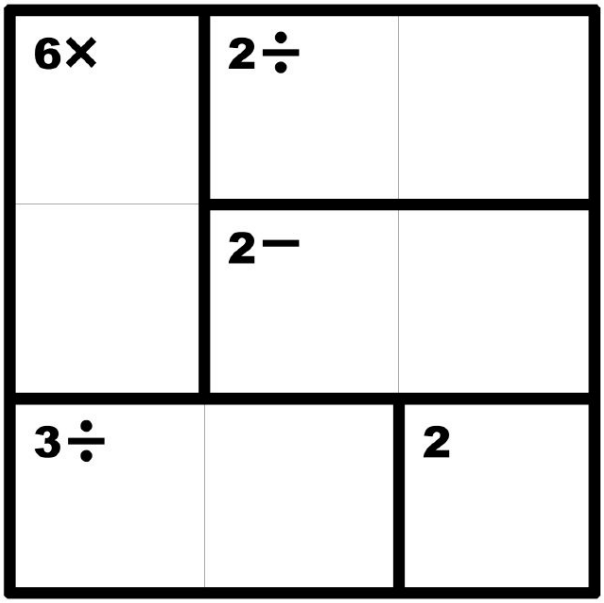
Write a situation for this equation and draw a picture that goes with it.

Name _____ Date: _____

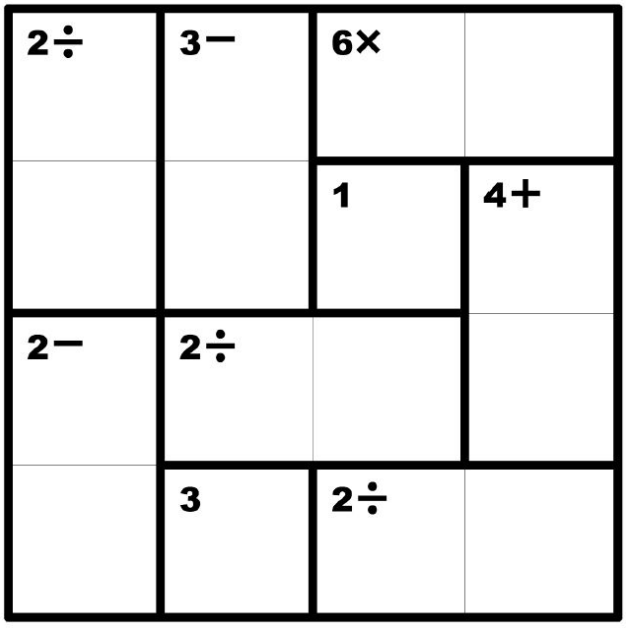
KenKen Puzzles Homework

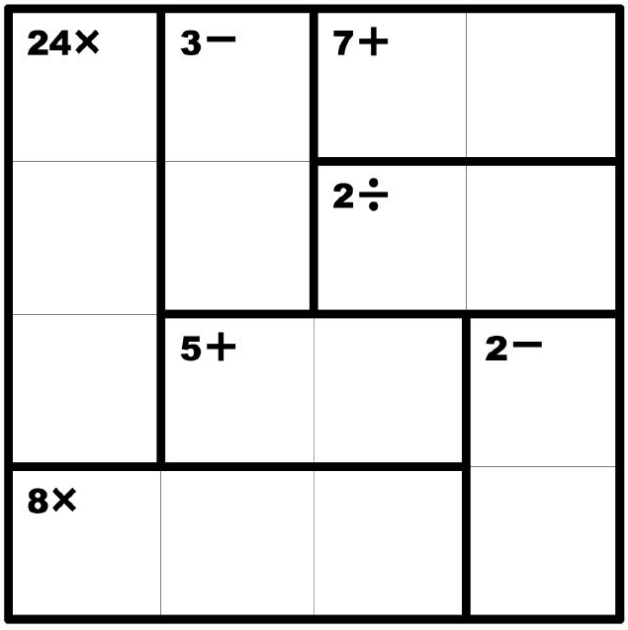
3 x 3: Every row and every column must have the numbers 1, 2, and 3.





4 x 4: Every row and every column must have the numbers 1, 2, 3, and 4.





Check your KenKen when you are done

1. Did you follow the Basic Rule: **no** numbers repeat in any row or column!
2. Do your numbers follow the Number Clues? Are your calculations correct?
3. Final Check: add the numbers in each row and column. The sums should all be the same.

Name _____ Date: _____

Stone Soup

A group of six travelers came into a small town. They were very hungry, but nobody in the town offered them any food.

One of the travelers announced that he would make Stone Soup. "How do you make Stone Soup?" asked a townsperson.

"You need a big pot, some water, and a large stone," said the traveler.

The townspeople, very curious to see how Stone Soup was made, gathered together the materials. The travelers started to cook the soup over a fire they made. Once the soup began to boil, one of the travelers said, "This will be tasty soup, but a truly delicious Stone Soup has other ingredients.

The townspeople, now even more curious, asked what extra ingredients might be added. "Well, for each person, we would need 2 carrots, 3 onions, and 5 pieces of meat."

How many of each ingredient would you need for YOUR family?

Unit 5.1 Whole Number Multiplication and Division

Homework 

Fifth Grade Family Letter

Unit 1: Whole Number Multiplication and Division

In Grade 5, students build on and extend the work they did in Grade 4 with multi-digit multiplication and division, making connections between different kinds of representations.

Multi-Digit Multiplication and Division

Partial product is a multiplication strategy based on place value that allows a student to decompose or pull apart numbers, multiply the parts, and then add them back together. Students move through the problem in an organized way that lets them see where the numbers are coming from.

	324
	x 6
First multiply 6 x 4 =	24
Next multiply 6 x 20 =	120
Next multiply 6 x 300 =	1800
Last, add the partial products =	1944

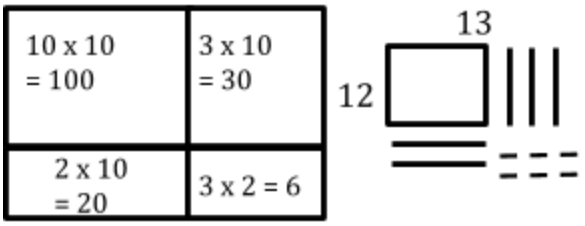
3	384	
	- 300	100
	84	
	-60	20
	24	
	-24	+ 8
	0	128

At each step, a student is thinking about a number that is easy to divide, and keeping track as they go. They add the partial quotients at the end.

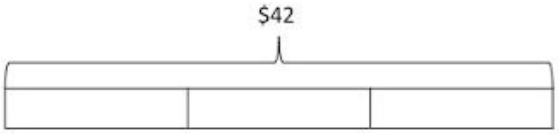
Partial quotient is a division strategy based on place value that allows a student to divide based on numbers that are easy to work with. Students track the parts along the way, and then add them back together. Students move through the problem in an organized way that lets them see where the numbers are coming from.

Area Models and Tape Diagrams

Multiplication is used in geometry when the area of a rectangle is being calculated. In this unit, students will use base-10 blocks and draw models to see and understand multi-digit multiplication. These figures represent 12 x 13.



Students have seen **tape diagrams** in earlier grades. They are a visual way of representing the parts that make up a whole, and can be used to show addition, subtraction, multiplication, or division. This tape diagram shows $42 broken into three equal groups, and could be used to represent $42 \div 3$.

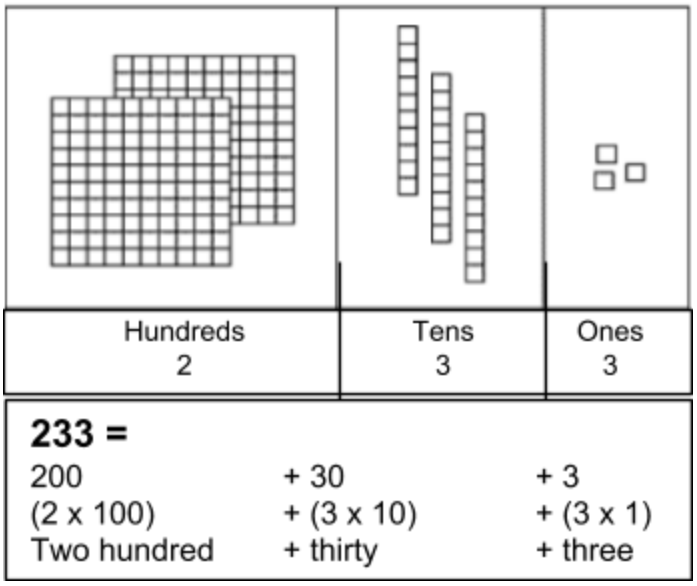


Fluency and Algorithms

Many of us think of the word *fluent* as having to do with language, usually meaning that you can speak without having to think in one language first and translate in your head. The idea is similar for math. *Fluent* in the Common Core State Standards for Math means “fast and accurate.” An algorithm is a step-by-step set of directions for solving a problem that is usually very efficient. In this unit, fifth graders will multiply and divide with a number of different algorithms. In Grade 5, students are expected to be fluent with the standard algorithm for multiplication but *not* for division. We want students to build fluency and also to understand mathematics conceptually.

Expanded Form and Base-10 Blocks

Fifth graders will continue to use expanded form to show their place value understanding and will continue to represent place value with base-10 blocks. Expanded form is an expression that shows the value of every digit and can be written with words or numbers. All of the work with multiplication and division in this unit depends on a strong understanding of place value. Even though the numbers may be smaller than some of the numbers students worked with as fourth graders, the multi-digit, multi-step operations fifth graders use in this unit are more complex.



Other Topics in Unit 5.1

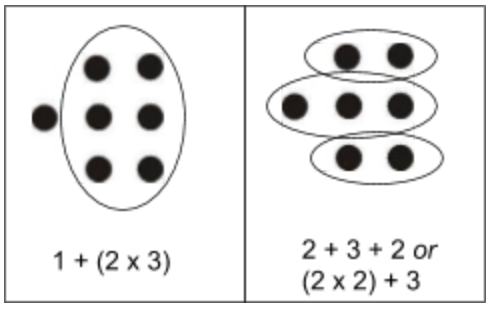
10,000 =

10 X 10 X 10 X 10 =

10^4

Exponential Notation is a way of representing very large (and very small) numbers compactly. For example, the number 10,000 can be seen as 10 x 10 x 10 x 10, or 10^4. In this case, 10 is the base, or the number you are multiplying, and the 4 is the exponent, or the number of times you multiply it. Exponents are important not only in math, but also in science. Students will use this notation in many of the courses that prepare them for a STEM career (Science, Technology, Engineering, and Mathematics).

Expressions are numbers and symbols grouped together that show the value of something. Visual representations help students think about expressions. For example, I can see the dots in more than one way. I might see one dot by itself next to 2 columns with three dots each, and write it as 1 + (2 x 3). Or, I might see a row of 2, a row of 3, and another row of 2, and write it as (2 + 3 + 2), which I could also write as (2 x 2) + 3.



Activities You Can Do to Support Math at Home

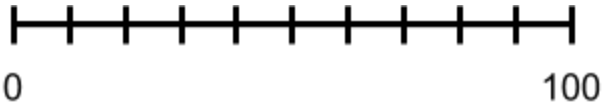
Math Notebooks

In the classroom, students use their math notebooks regularly to develop their understanding of concepts, and extend that understanding with multiple representations and precise mathematical vocabulary. Encourage your child to write about math you encounter in everyday life. Writing in math includes words, pictures, numbers and symbols, and charts or graphs. How many ways can your child show the same idea?

Name _____Date: _____

5.1 Entry HW

1. Place each of these numbers on the number line: 7, 47, 77



2. Put these numbers in order from smallest to largest:

1048, 108, 1084, 1800, 800, 480, 408

3. Draw a tree with three trunks, 3 branches on each trunk, 3 twigs on each branch, and 3 leaves on each twig.

4. How many leaves does your tree have all together?

Name _____ Date: _____

5.1 LS1 Day 1 HW

1) Record each of these numbers in expanded notation. The first one is done.

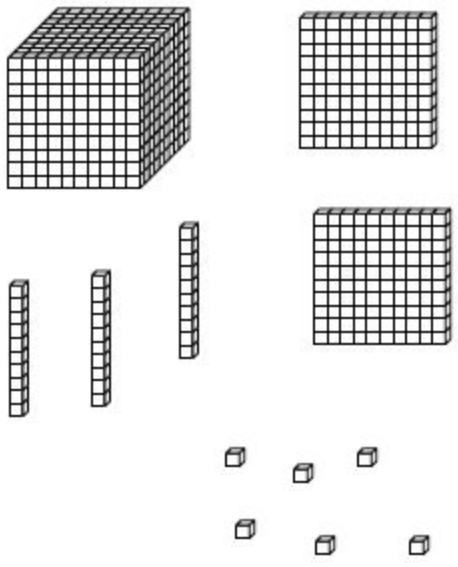
2128 = (2 x 1000) + (1 x 100) + (2 x 10) + (8 x 1) = 2000 + 100 + 20 + 8

4629 =

8338 =

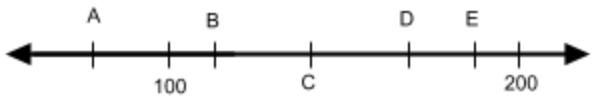
2) What is the value of this collection of base ten blocks if the

= 1?



3) Write the number from the left in expanded notation:

4) What could these numbers be?



Name _____ Date: _____

5.1 LS1 Day 2 HW

1) Pablo has ten dollars. He wants to buy 7 packs of gum. Each pack of gum costs $1.50. Does he have enough money? How do you know?

2) True or False? Show how you know:

$64 \times 8 \times 100 = 640 \times 8 \times 10$

Here are the scores from two friends playing Powers of 10 Yahtzee.

Player 1		Player 2	
Exponential Expression	Value	Exponential Expression	Value
1. 10^3		1. 10^5	
2. 10^5		2. 10^7	
3. 10^8		3. 10^1	
4. 10^2		4. 10^3	
5. 10^5		5. 10^3	
Total			

3) Can you tell who has the higher total? How do you know?

4) Calculate the totals and tell whether your thinking was right.

Name _____ Date _____

Area Model HW: Solving multiplication problems with an area model.

Estimate the answer. Then draw an area model and solve the problem. Use arrows to match the partial products from your area model to the partial products in the algorithm.

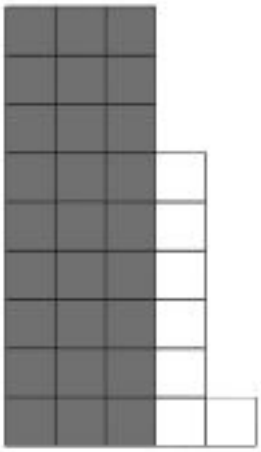
	Area Model	Solution
27 × 36 =		
Estimate		
527 × 36 =		
Estimate		
649 × 53		
Estimate		

Name _____ Date: _____

5.1 LS1 Day 4 HW

1) Theresa has $12 in nickels and quarters. If she has the same number of each kind of coin, how many nickels and quarters does she have?

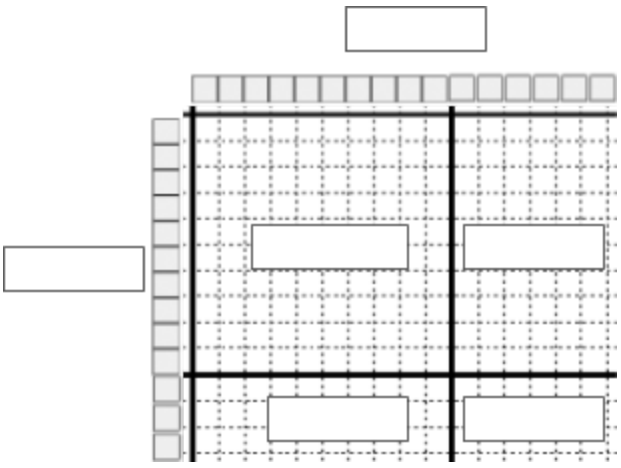
2) Write as many expressions as you can for this picture:



3) Circle each expression that is equivalent to **16 × 29**

29 sixteens
16 × (30 – 1)
(15 – 1) × 29
(10 × 29) – (6 × 29)

4) Label this area model of base ten blocks and find its area:



Name _____Date: _____

5.1 LS1 Day 5 HW

1. Selena is 11 years old. Her father is 4 times as old as her. Her mother is 4 years younger than her father. How old is each person in Selena's family? Write expressions for each person and calculate their age.

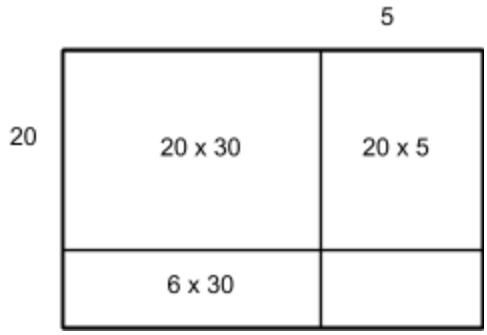
2. Solve these multiplication problems. Explain how you got each answer:

4 x 3
4 × 30
40 × 30
40 × 300
4,000 × 30

3. Circle each expression that is equivalent to **74 × 59**

74 × (50 + 9)
74 × (60 – 1)
(74 × 5) + (74 × 9)
59 seventy-fours

4. Fill in the numbers that are missing from this box model and find the total.



Name: _____ Date: _____

$$(3 \times 7) + 5 = 26$$

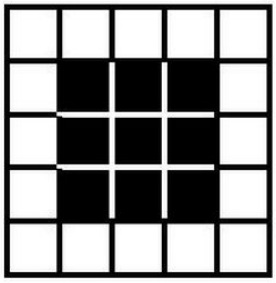
Write a situation for this equation and draw a picture that goes with it.

Name _____Date: _____

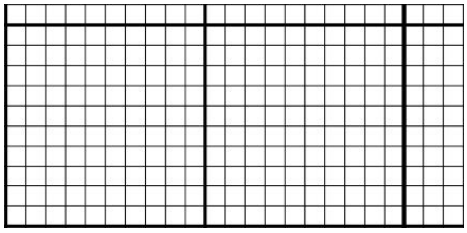
5.1 LS1 Day 7 HW

1) A new garage is being built that has room for 46 rows of cars. Each row can fit 58 cars. How many cars will fit in the garage?

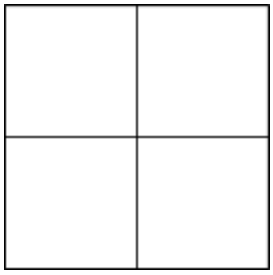
2) Write as many expressions as you can for this picture:



Find the area of this rectangle using an area model and an algorithm



3) Area Model:



4) Algorithm:

Name_____ Date _____

3-Read Homework

Situation: Tickets to a baseball game are $20 for an adult and $15 for a student. On Saturdays there is a 3 dollar discount on tickets.

1. What is this situation about?

2. What are the quantities in this situation?

3. What mathematical questions could we ask?

4. Answer one of your questions!

Name _____Date: _____

5.1 LS2 Day 1 HW

1. The distance from Gary's school to the corner market is 47 yards. The distance to the BART station is 12 times as far. How far is the BART station from Gary's school?

2. Draw a picture and write an expression for

The sum of 8 and 7, doubled

3. Solve each equation and explain how you did it:

63 × 32
630 × 32
6,300 × 32
6,300 × 320

4. Estimate, draw an area model, and solve: 48 × 35

Estimate	Solution
Area Model	

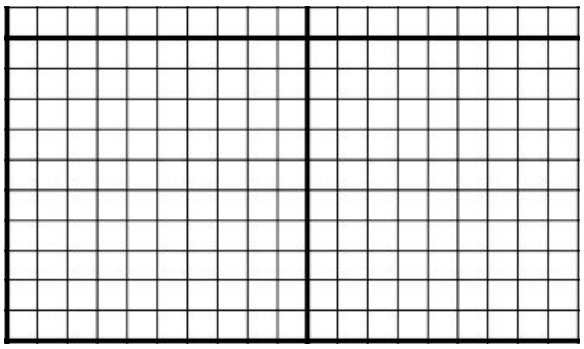
Name _____Date: _____

5.1 LS2 Day 2 HW

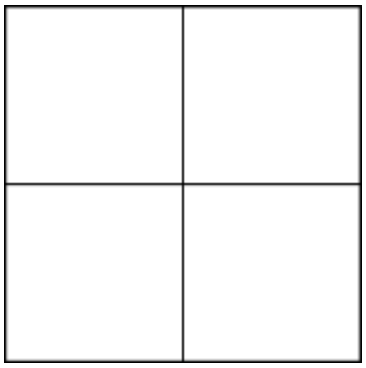
1) There are 6 paintings on three of the walls of a room. If an art gallery has 13 such rooms, how many paintings are there in its collection?

2) Draw a picture and write an expression for 4 times the sum of 14 and 26

Find the area of this shape using an area model and an algorithm



3) Area Model:



4) Algorithm:

Name_____ Date _____

3-Read Homework

Situation: These are prices for flowers at the local market:

Flower	Price for 1	Price per dozen
begonia	$1	$10
rose	$1.50	$11
lily	$1	$11
daffodil	$2	$13

1. What is this situation about?

2. What are the quantities in this situation?

3. What mathematical questions could we ask?

4. Answer one of your questions!

Name _____ Date: _____

5.1 LS2 Day 4 HW

1) There are 165 students in the after-school program. If 10 children will be assigned to each instructor, how many instructors need to be hired?

1) Draw a picture and write an expression for

The product of 9 and 5, minus 10

2) Solve each equation and explain how you did it:

6 × 9 =

60 × 90 =

600 × 90 =

3) Estimate, draw an area model, and solve: 28 × 134

Estimate	Solution
Area Model	

Name: _____ Date: _____

$$72 \div 6 = 12$$

Write a situation for this equation and draw a picture that goes with it.

Name _____ Date: _____

5.1 Expert HW

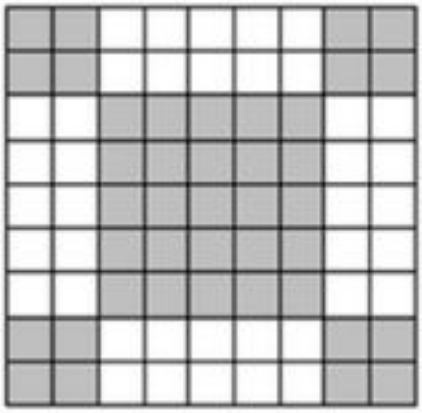
1) Kyle and Tanisha brought home 19 flowers from Squirrel Park. Their mom wants them to bring 3 times as many next time. How many flowers should they bring?

2) Estimate and then solve, showing all your work: $425 \div 5 =$

3) True or False? Show how you know:

57 x 2 x 5 = 10 × 57

4) Write as many expressions as you can for this picture:



Name _____ Date: _____

5.1 LS3 Day 1 HW

A box contains 24 oranges. Mr. Lee ordered 8 boxes for his store and 12 boxes for his restaurant.

1) Draw picture to show the situation.

2) Make a tape diagram to show the situation.

3) Write an expression to show how to find the total number of oranges ordered.

4) How many oranges did Mr. Lee order?

Estimate

Find the exact amount

Name: _____ Date: _____

$$68 \div 4 = 17$$

Write a situation for this equation and draw a picture that goes with it.

Name _____Date: _____

5.1 LS3 Day 3 HW

1) Zeljko's father bought a new TV for $660. He is paying it off monthly for one year. How much does he pay each month?

2) Show this problem using a tape diagram and then solve:

304 / 19

3) Circle each expression that is equivalent to **38 × 45.**

(38 + 40) × (38 + 5)
(38 × 40) + (38 × 5)
45 × (40 + 2)
45 thirty-eights

4) True or false? Explain how you know:
57 × 2 × 10 × 10 × 10 = 570 × 2 × 10

Name _____ Date _____

5.1 LS3 Day 4 HW

1) A city bus made 252 stops a day. How many stops did the bus make in 37 days?

2) Here is a scoresheet from a game of Multiplication Battle:

Player 1:		*Player 2:*	
Teams (70 + 5) • (80 + 4)		Teams (60 + 4) • (90 + 1)	
Products:	70 • 80 = 5,600	Products:	60 • 90 = 5,400
	70 • 4 = 280		60 • 1 = 60
	5 • 80 = 400		4 • 90 = 360
	5 • 4 = 20		4 • 1 = 4
(add 4 products)	5,000	(add 4 products)	5,000
	1,200		700
	+ 100		120
Total	6,300		+ 4
		Total	5,824

Show a different way to calculate each player's score.

3) Draw a picture that shows (7 x 5) + 4

4) Solve these division problems. Explain how you got each answer:

100 / 4
40 / 4
24 / 4
4 / 4
124 / 4

Name _____Date: _____

5.1 Milestone HW

1) A sports store receives 3 shipments of 98 playground balls. Each ball costs $2. What is the total cost of the balls?

2) A farmer needs to ship 71 pumpkins to a grocery store. If his crates can hold 19 pumpkins, how many crates will the farmer need?

3) Draw a picture that shows 3 + (2 x 19).

4) Write expressions for each of these situations:

Salima ran 20 laps around the track. She ran for 4 times as long as Paul.

My cat weighed 2 pounds when I got her. Now she weighs 4 times as much.

Riding uphill to school took me 30 minutes. Riding downhill to get home was 3 times as fast.

Unit 5.2 Decimal Number System

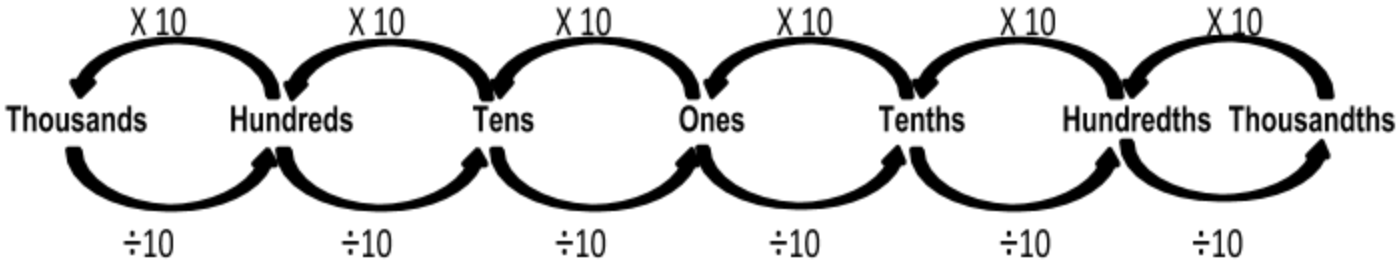
Homework 

Fifth Grade Family Letter

Unit 2: Decimal Number System

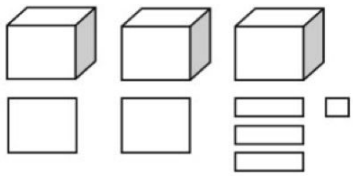
In Grade 4, students were introduced to decimals to the hundredths as numbers that we use to show money, and as fractions with denominators 10 and 100. In fifth grade, students work with decimals to the thousandths place. What is true of computation with whole numbers is also true for computation with decimals, so students practice many of the same skills and concepts they have worked with in earlier grades, such as rounding and comparing.

Fifth graders continue to work with the structure of our base ten number system, noting that the value represented by each place is always 10 times the value represented by the place to its immediate right, and 1/10th the value represented by the place to its immediate left. Very large and very small numbers are harder to imagine and are less frequent in our everyday world. Please see suggestions below for talking to your child about them.



Base Ten Blocks

Students will show their place value understanding with base ten blocks. Students are used to the little block equaling 1 unit, but in this unit they set the big block equal to one unit. So 3.231 is shown with:



- 3 cubes, or wholes = 3 x 1
- 2 flats or tenths = 2 x 0.1 or $2 \times \frac{1}{10}$
- 3 rods or hundredths = 3 x 0.01 or $3 \times \frac{1}{100}$
- 1 unit block or thousandth = 1 x 0.001 or $1 \times \frac{1}{1000}$

Each next smallest manipulative shows the place value that is 1/10 the value, matching the idea shown by the arrows above.

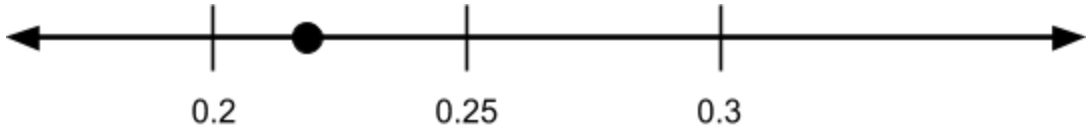
Expanded Form

Fifth graders continue to use expanded form to show their place value understanding, taking that learning into thousandths. Expanded form is an expression that shows the value of every digit, and can be written with words or numbers.

347.392 =					
300	+ 40	+ 7	+ 0.3	+ 0.09	+ 0.002
3 hundred	+ 4 tens	+ 7 ones	+ 3 tenths	+ 9 hundredths	+ 2 thousandths
(3 x 100)	+ (4 x 10)	+ (7 x 1)	+ (3 x 1/10)	+ (9 x 1/100)	+ (2 x 1/1000)

Number Lines as a Tool to Understand Decimals to the Thousandths

Number lines are a helpful visual tool for seeing and understanding numbers, comparing them, putting them in order, and rounding or estimating.



These are some questions that could be modeled with the number line above:

- What number might the dot represent? *(One possible reasonable answer is 0.22, since the dot is less than half the distance between 0.2 and 0.25.)*
- Is 0.26 closer to 0.2 or 0.3? *(It is closer to 0.3, since it is greater than 0.25, which is the halfway mark between the two numbers.)*
- Make a mark where 0.34 might fall. *(A student would make a mark to the right of 0.3, since 0.34 is greater than 0.3. It would be almost as far to the right of 0.3 as the distance between two of the marks, since the space between the marks is 0.05.)*

Activities You Can Do to Support Math at Home

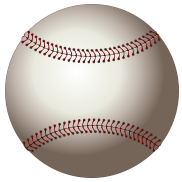
Paying Attention to Decimals In Money

Decimals appear in the world all around us. We most frequently see decimals to the hundredths in money. This is a fourth grade concept that you can continue to practice with your child anytime you are shopping or come across prices in newspapers, magazines, or online.

Paying Attention to Decimals in Sports

One of the real world applications for numbers to the thousandths can be found in sports, including both gymnastics and baseball. Reading and understanding the size and value of these scores and how they compare with other scores is a great exercise in understanding thousandths.

Team USA's Simone Biles won the all-round world championship with a score of 60.231.



SF Giants' Nori Aoki's OBP (on base percentage) was .383 as of June 2015.

Math Notebooks

In the classroom, students use their Math Notebooks regularly to develop their understanding of concepts, and to extend that understanding with multiple representations and precise mathematical vocabulary.

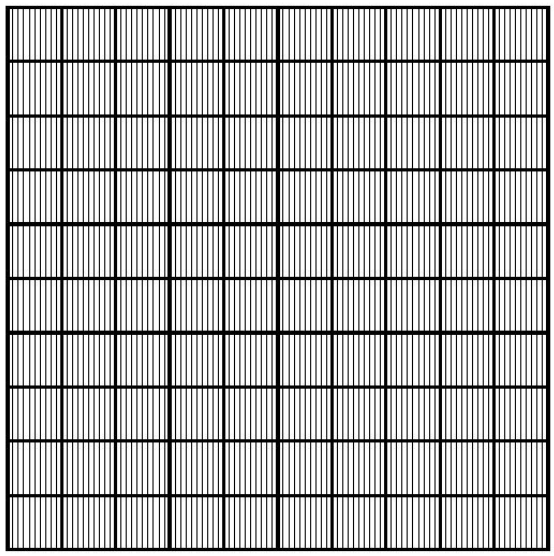
Because numbers with decimals are printed in so many places, students can make a collage by cutting these numbers out and gluing them into their notebook. Help your child with these kinds of organizational ideas, or any others you think of together.

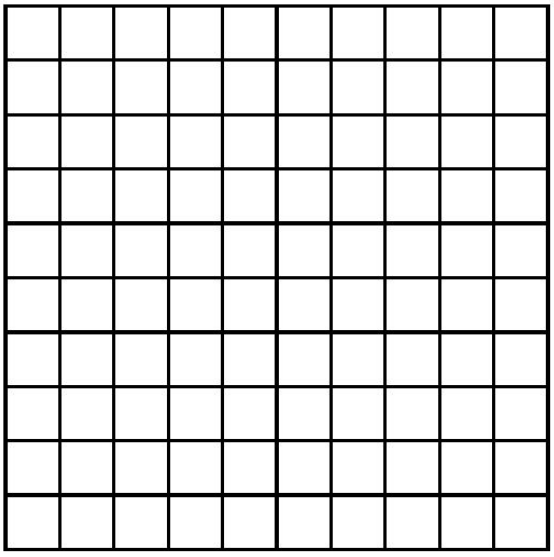
- Can you organize them least to greatest, or in another way?
- Can you write out the names of the numbers in word form?
- Can you write value statements about the decimals and argue your case?
- Is an item for sale worth its price? Why or why not?
- Did an athlete earn their ranking or average? Why or why not?

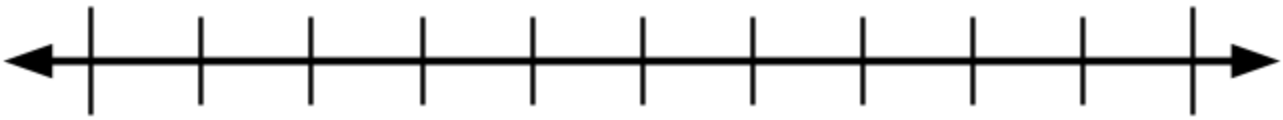
Homework Tools for 5.2 Decimal Number System

Name of Place	Ones	Tenths	Hundredths	Thousandths
Decimal Form	1	0.1	0.01	0.001
Fraction Form	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
Expanded notation - fraction	1 x 1	1 x $\frac{1}{10}$	1 x $\frac{1}{100}$	1 x $\frac{1}{1000}$
Expanded notation - decimal	1 x 1	1 x 0.1	1 x 0.01	1 x 0.001

Place Value Chart with Decimals							
ten thousands	thousands	hundreds	tens	ones	tenths	hundredths	thousandths

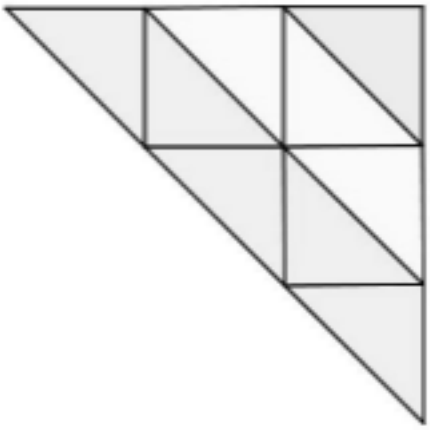






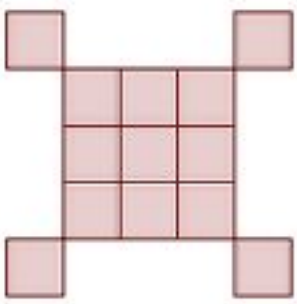
Name _____ Date: _____

5.2 Entry HW

In the number 5,555, what is the value of each digit? Write the number in expanded notation:	Solve by drawing an area model and then use the standard algorithm: 432 x 620
Write as many expressions as you can for this picture: 	The floor of a rectangular room has an area of 2400 square feet. Its length is 60 feet. What is its width? Draw a picture and show your solution:

Name _____ Date: _____

5.2 LS1 Day 1 HW

Josita received $50 as a gift. She plans to buy two CDs that cost $9 each and a headphone set that costs $25. How much money will she have left? Explain your answer in words, pictures, and numbers.	Solve: 17 × 13
Write as many expressions as you can for this picture: 	Before soccer practice, Jovan warms up by jogging around a soccer field that is 100 yards by 130 yards. How many yards does he jog if he goes around the field four times?

Name _____ Date: _____

5.2 LS1 Day 2 HW

1) Write the number 492,053 on this chart:

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

a. Write the number in word form.

b. Write the number in expanded form.

2) Michael is going on a 3150 mile drive. He needs to stop for gas every 320 miles. How many times will he need to stop?

3) Estimate the answer, then draw an area model for this problem and solve it using an algorithm.

73 × 29	Area Model:	Algorithm:
Estimate:		

Name _____ Date: _____

5.2 Apprentice HW

1) Oakland has a population of about 400,000. San Francisco's population is about twice that much. Write an expression for the population of San Francisco and solve it.

Write the number on a place value chart. Then write it in expanded form using fractions:

Example: 26.419

tens	ones	tenths	hundredths	thousandths
2	6	4	1	9

$(2 \times 10) + (6 \times 1) + (4 \times \frac{1}{10}) + (1 \times \frac{1}{100}) + (9 \times \frac{1}{1000})$

2) 1.362

tens	ones	tenths	hundredths	thousandths

3) 50.24

tens	ones	tenths	hundredths	thousandths

4) Complete the table with the missing forms of each number:

Standard Form	Expanded Form	Word Form
5.32		
	$(4 \times 10) + (9 \times 1) + (3 \times \frac{1}{10}) + (6 \times \frac{1}{100})$	
		Five hundred sixty and forty-three hundredths

Name: _____ Date: _____

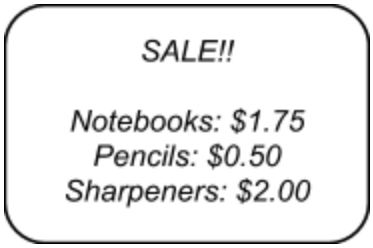
$$1{,}072 \div 16 = 67$$

Write a situation for this number model and draw a picture that goes with it.

Name_____ Date _____

Three Read Homework

Situation: Emanuel went shopping and saw this sign:



1. What is this situation about?

2. What are the quantities in this situation?

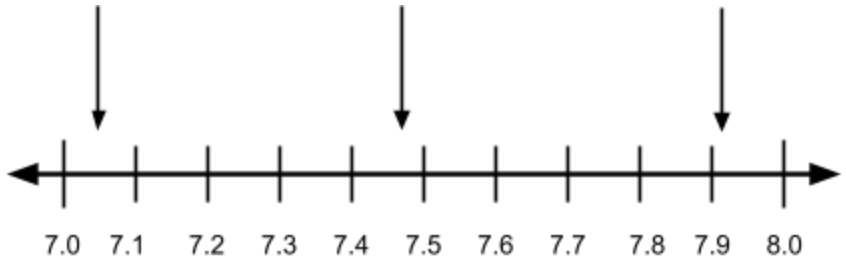
3. What mathematical questions could we ask?

4. Answer one of your questions!

Name _____ Date: _____

5.2 Expert Task HW

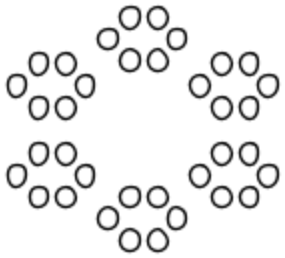
What numbers belong where the arrows are pointing? Explain your thinking.



Use >, <, or = to compare these numbers. Use your place value chart to help.

	<, >, =	
9.14		9.19
22.12		22.1
$\frac{7}{10}$		0.7
42.1		4.21
3.098		3.089
0.99		99 hundredths
7 hundredths		7 tenths
1000		999.999
29.04		29.004

Elvis loves rhinestones. He makes a jacket with this rhinestone pattern. The pattern repeats 24 times on his jacket. How many rhinestones does he use all together?



Name _____ Date: _____

5.2 LS3 Day 1 HW

1. Place each of these decimals on the number line: 4.3 4.5 4.55 4.6

2. Fill in the missing numbers using the multiplication area model:

34 x 28

	20	8
30		**240**
4		**32**

32

+ 600

3. Robert is making a photo album. 12 photos fit on a page. How many pages will he need for 432 photos?

4. Write each exponent in standard form:

10^2 =	10^4 =
10^3 =	10^5 =

Name _____ Date: _____

5.2 LS3 Day 2 HW

1) Ella set out a board of pine lumber that was 0.8 feet long and a board of cedar lumber that was 0.80 feet long. Alberto said the cedar board was longer. Is he correct? Explain.

2) Compare using >, <, or =.

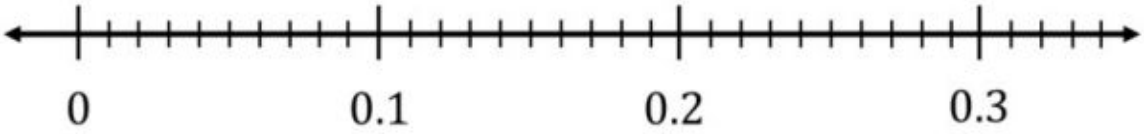
3.4 ◯ 3.40

6.87 ◯ 6.9

8.9 ◯ 8.124

Explain your answer to one of the problems:

3) Which is greater, 0.12 or 0.21? Show the comparison on the number line.



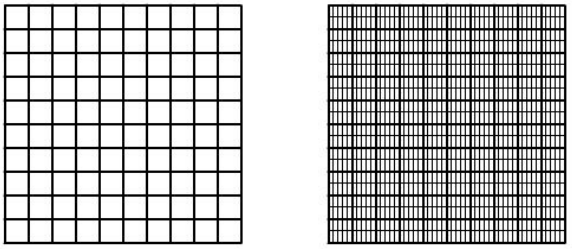
4) Mike, Jake, and Aaron are buying snowboards. Mike is getting his snowboard on sale for $219.49. Jake's costs $279.97. Aaron's costs $234.95.

Write the names in order from who spent the least to the most.

Round each snowboard price to the nearest dollar.

Name _____ Date: _____

5.2 Milestone Task HW

Compare these decimals. Shade the decimal squares and then write an equation with greater than, less than, or equal to. 0.23, 0.203 	Compare these numbers. Draw them with base-10 blocks to show which is greater. 3.45 3. 405
Put these numbers in order from smallest to largest. Explain how you know. 0.03, 0.009, 0.285, 0.064	Mrs. Sanders bought 3 pumpkins. The first one weighed 4.8 kilograms, the second one weighed 4.09 kilograms, and the third one weighed 4.196 kilograms. Which pumpkin weighed the least? How do you know?

Unit 5.3

Addition and Subtraction of Decimals and Fractions

Homework 

Fifth Grade Family Letter

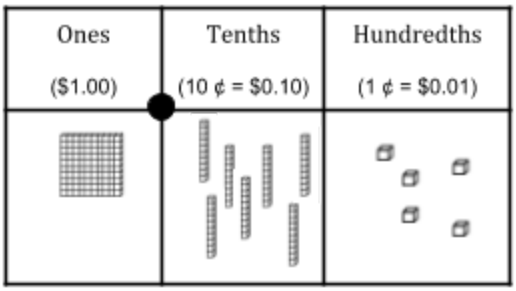
Unit 3: Addition and Subtraction of Decimals and Fractions

The rules for adding and subtracting whole numbers, decimals, and fractions are all the same. In this unit, fifth graders practice many strategies to add and subtract decimals and fractions.

Adding and Subtracting Decimals with Place Value Understanding

In 5th grade students begin to add and subtract decimals based on an understanding of place value. For example, students use models like base ten blocks and place value boards, shown here, to help them understand and then show what they know.

Place Value Board

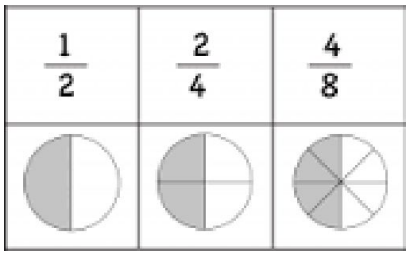


Decimals in the context of Money

Because we see money all around us, it is a great context for thinking about addition and subtraction of decimals. Students can relate money values to the Base-10 materials in their classroom. So, for example, students can combine $1.75 + $2.46 by thinking about dollars, dimes, and pennies, or by using materials and combining them. In 6th grade, students will build on this work to learn computation algorithms for decimals. Algorithms are shortcuts for computing quickly. The algorithms for decimals are formalized in middle school.

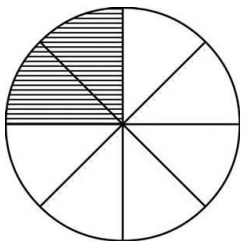
Equivalent Fractions

Fractions may have the same value, even if they look different visually, or have different digits in the different parts of the fraction. Students have been thinking about and using equivalent fractions since 3rd grade. In this unit, students use this understanding to add and subtract fractions with unlike denominators.

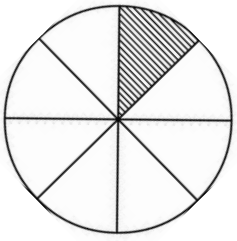


Adding and Subtracting Fractions With Unlike Denominators

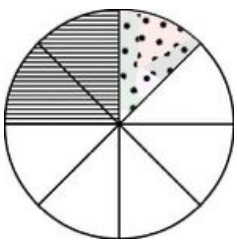
In a fraction, the denominator is the number on the bottom, and it shows how many pieces of that fraction make one whole. If two fractions have different denominators, this means they do not represent the same size parts of a whole, so they cannot be added as they are.



1/4 = 2/8



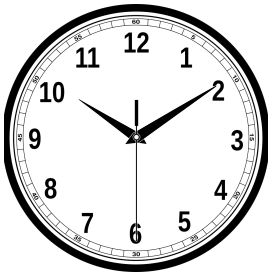
1/8



¼ + 1/8 = 2/8 + 1/8 = 3/8

One way to add $\frac{1}{4} + \frac{1}{8}$ is to write $\frac{1}{4}$ as the equivalent fraction $\frac{2}{8}$, so that the two fractions have the same denominator. This makes it easy to see that their sum is $\frac{3}{8}$.

Fractions on a Clock



One of the ways that students will practice with fractions in this unit is using clock faces. A student can see many different fractions on a clock face. For example, 1/3 of a clock face is 20 minutes. Students use clock faces to help practice the idea of equivalence and to add fractions.

Writing Fractions

$3\frac{1}{2} = \frac{7}{2}$

Mixed numbers, fractions, and reduced fractions are all different ways of writing the same number. The focus in the standards is on the number itself, not how you write it. This change in focus may surprise adults who were taught many shortcuts for converting numbers from one form to another.

Activities You Can Do to Support Math at Home

Helping Your Child with Homework

The Standards for Mathematical Practice describe the ways students behave as they learn math. While the mathematics content changes from grade to grade, these standards are the same for kindergarten through high school. Mathematical Practice Standard 3 says: ***Construct viable arguments and critique the reasoning of others.***

This standard represents one of the most important shifts in the Common Core State Standards: that math is so much more than getting the right answer. Many professionals who use math in their everyday lives need to be able to explain their thinking, and defend why their ideas make sense. In homework, students are often asked to "explain why their ideas make sense" or "defend their answers." These are some questions and prompts that will help students say more about what they know and how they know it.

- Tell me what your answer means.
- How do you know that your answer is correct?
- If I told you I think the answer should be (*offer a wrong answer*), how would you explain to me why I'm wrong?

Making Different Representations of Fractions

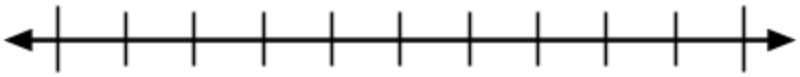
This image shows a fraction kit similar to one fifth graders will make in this unit. There are many other ways to show fractions. Using a variety of art materials, such as different colored paper, glue, and pens, help your child find other ways to model fractions.

Exploring fraction equivalence is key to understanding computation with fractions.

Fractions and Decimals all around

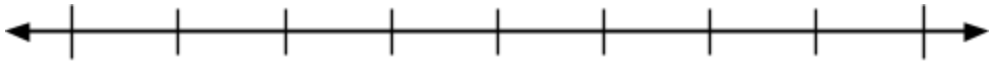
5th graders will work with decimals and fractions for the remainder of the year. Help your child practice understanding them in their world by pointing them out in recipes, grocery prices, bills, and anywhere else they appear in your world.

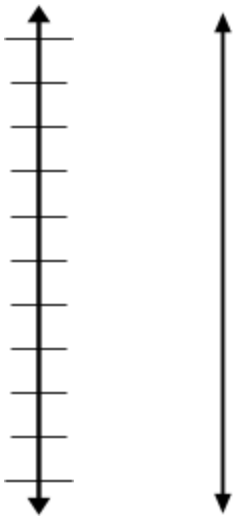
Homework Tools for 5.3 Addition and Subtraction of Decimals and Fractions

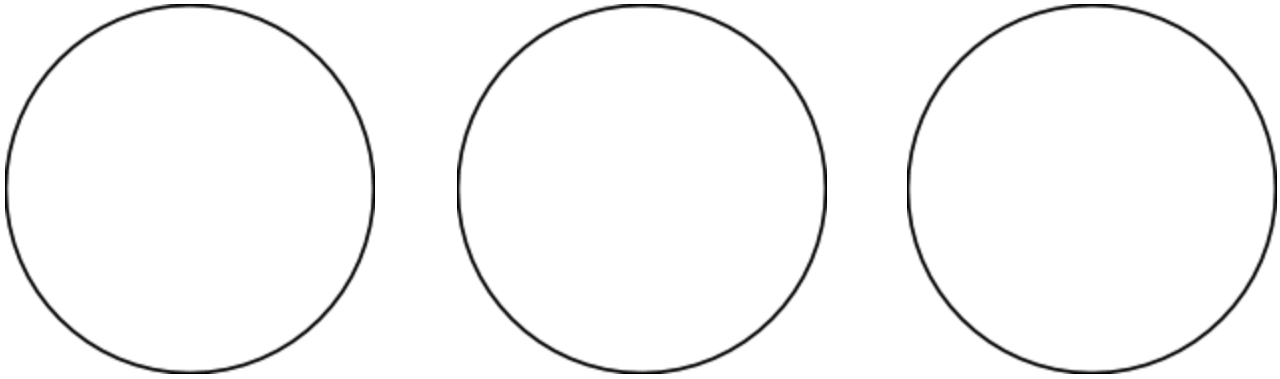


Name of Place	Ones	Tenths	Hundredths
Decimal Form	1	0.1	0.01
Fraction Form	1	$\frac{1}{10}$	$\frac{1}{100}$
Expanded notation – fraction	1 × 1	1 × $\frac{1}{10}$	1 × $\frac{1}{100}$
Expanded notation – decimal	1 × 1	1 × 0.1	1 × 0.01

Tens ($10.00)	Ones ($1.00)	Tenths (10 ¢ = $0.10)	Hundredths (1 ¢ = $0.01)
			







Name _____ Date: _____

5.3 Entry Task HW

1. Write each number in expanded form and word form.

2.356

Expanded Form	
Word Form	

24.09

Expanded Form	
Word Form	

2. A kilogram (kg) of bananas costs $2.40. A kilogram of apples costs $3.55. What is the price of 1 kilogram of bananas and 2 kilogram of apples?

3. Solve this multiplication problem. Show your work! 72 × 139

4. In Ms. Salmon's 4th grade class, there are half as many boys as there are girls. There are 30 students all together. How many are boys? How many are girls? Explain how you solved the problem.

Name _____ Date: _____

5.3 LS1 Day 1 HW

Write the standard form of each decimal

Thirty-six and four tenths _____

Eight and forty-four hundredths _____

Fifteen and eight thousandths _____

Sixty-four hundredths _____

Write the word name for each decimal

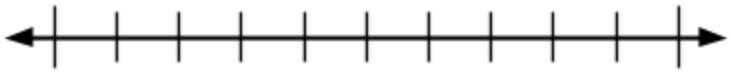
45.4 _____

88.08 _____

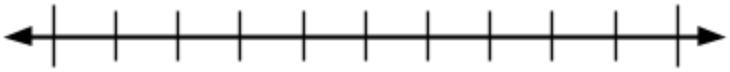
0.17 _____

2.035 _____

Name 5 decimals between 3 and 4. Use the number line.

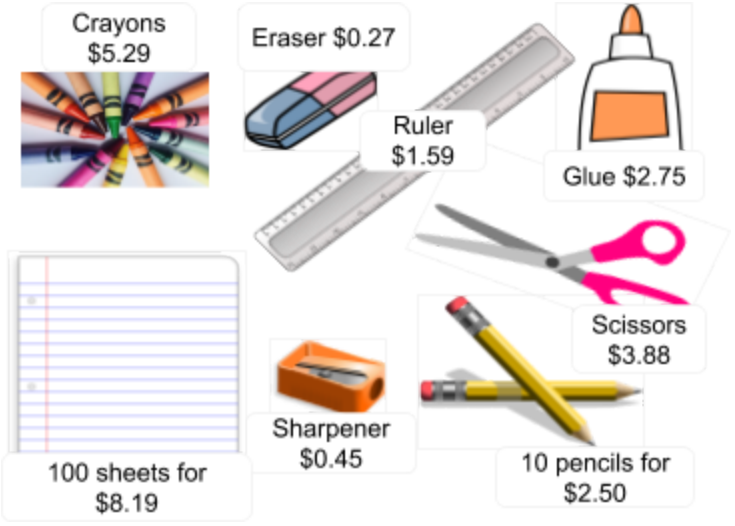


Name 5 decimals between 0.3 and 0.4. Use the number line.



Name_____ Date _____

Vincent is going to stock up on school supplies.



1. What is this situation about?

2. What are the quantities in this situation?

3. What mathematical questions could we ask?

4. Answer one of your questions!

Name _____ Date: _____

5.3 Apprentice Task HW

1) Solve each problem and explain what patterns you see:
28 + 14 =
2.8 + 1.4 =
0.28 + 0.14 =
0.028 + 0.014 =

2) Place each number on the number line and round it to the nearest tenth and hundredth:

4.33

Rounded to the nearest tenth:

Rounded to the nearest hundredth:

4.99

Rounded to the nearest tenth:

Rounded to the nearest hundredth:

4.25

Rounded to the nearest tenth:

Rounded to the nearest hundredth:

3) Use the symbols and numbers below to make the above number sentence correct.

< > 1 1 2 3

For example:

5.31 > 5.21

How many different sentences can you make?

4) Explain why you think you found them all.

Name _____ Date: _____

5.3 LS2 Day 1 HW

1) Add or subtract:

21.75 + 2.28 =

18.37 – 11.09 =

2) Write three equivalent fractions for each fraction:

$\frac{1}{2}$ =

$\frac{5}{5}$ =

$\frac{3}{4}$ =

3) Maurice has a pet hamster. In October he spent
$ 13.68 on hamster food
$ 7.89 on wood shavings
$ 21.14 on a new hamster wheel.

About how much money did he spend on his hamster? Estimate by rounding each amount to the nearest dollar.

Exactly how much did he spend on his hamster in October?

Name: _____ Date: _____

$\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{8}$

Write a situation for each of these fractions, or one situation for all 3, and draw a picture that goes with it.

Name _____ Date: _____

5.3 LS2 Day 3 HW

1. Write 3 fractions equivalent to ½

2. Solve in two ways

   ½ + ¼

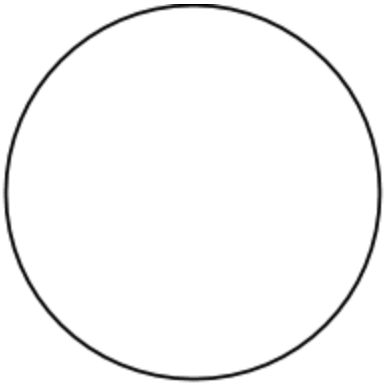
3.

   If it's half past 3, what time is it? _____

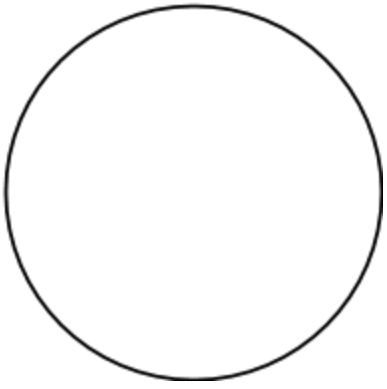
   If it's quarter to 7, what time is it? _____

4. Draw the two above times on two separate clocks and show what fraction of the clock each one represents.

a.



b.

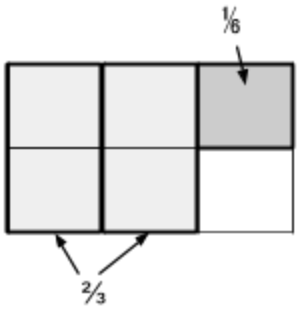


Name _____ Date _____

5.3 LS2 Day 4 Adding Fractions Homework

Shade in the shapes to show each sum. Record your work.

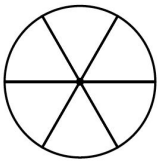
Example: 2/3 + 1/6



2/3 + 1/6 =
4/6 + 1/6
= 5/6

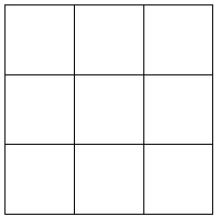
1/6 + 1/2

1/3 + 3/6

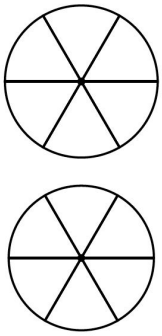


1/4 + 3/8

1/3 + 4/9



1/2 + 5/6



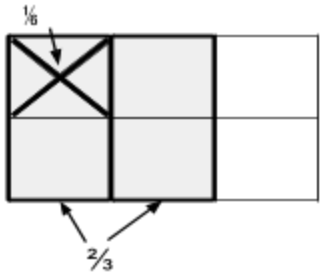
Make up your own:

Name _____ Date _____

5.3 LS2 Day 5 Subtracting Fractions Homework

Shade in the shapes to show each difference. Record your work.

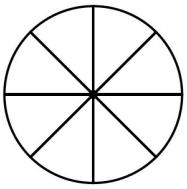
Example: 2/3 – 1/6



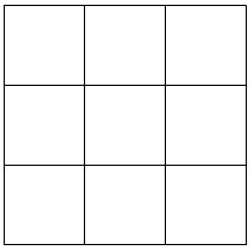
2/3 – 1/6
= 4/6 – 1/6
= 3/6

3/6 - 1/3

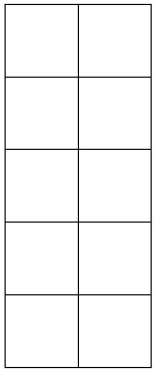
5/8 - 1/4



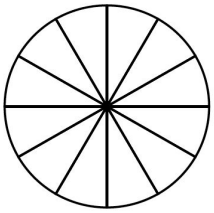
1/3 - 1/9



9/10 - 2/5



2/3 - 3/12



Make up your own:

Name_____ Date _____

Three-Read Homework

Situation: Antonio ate $\frac{1}{4}$ of a box of cereal, Jamie ate $\frac{1}{8}$ of the box, and Marianna ate $\frac{8}{16}$ of it.

1. What is this situation about?

2. What are the quantities in this situation?

3. What mathematical questions could we ask?

4. Answer one of your questions!

Name _____ Date: _____

5.3 Expert Task HW

1. Write 4 expressions equivalent to ¾ .

Here is a bowl of fruit.

2. Half of the pieces of fruit in the bowl are apples. There are also 3 oranges, 2 pears, and a banana.

How many apples are there in the bowl? Show your work!

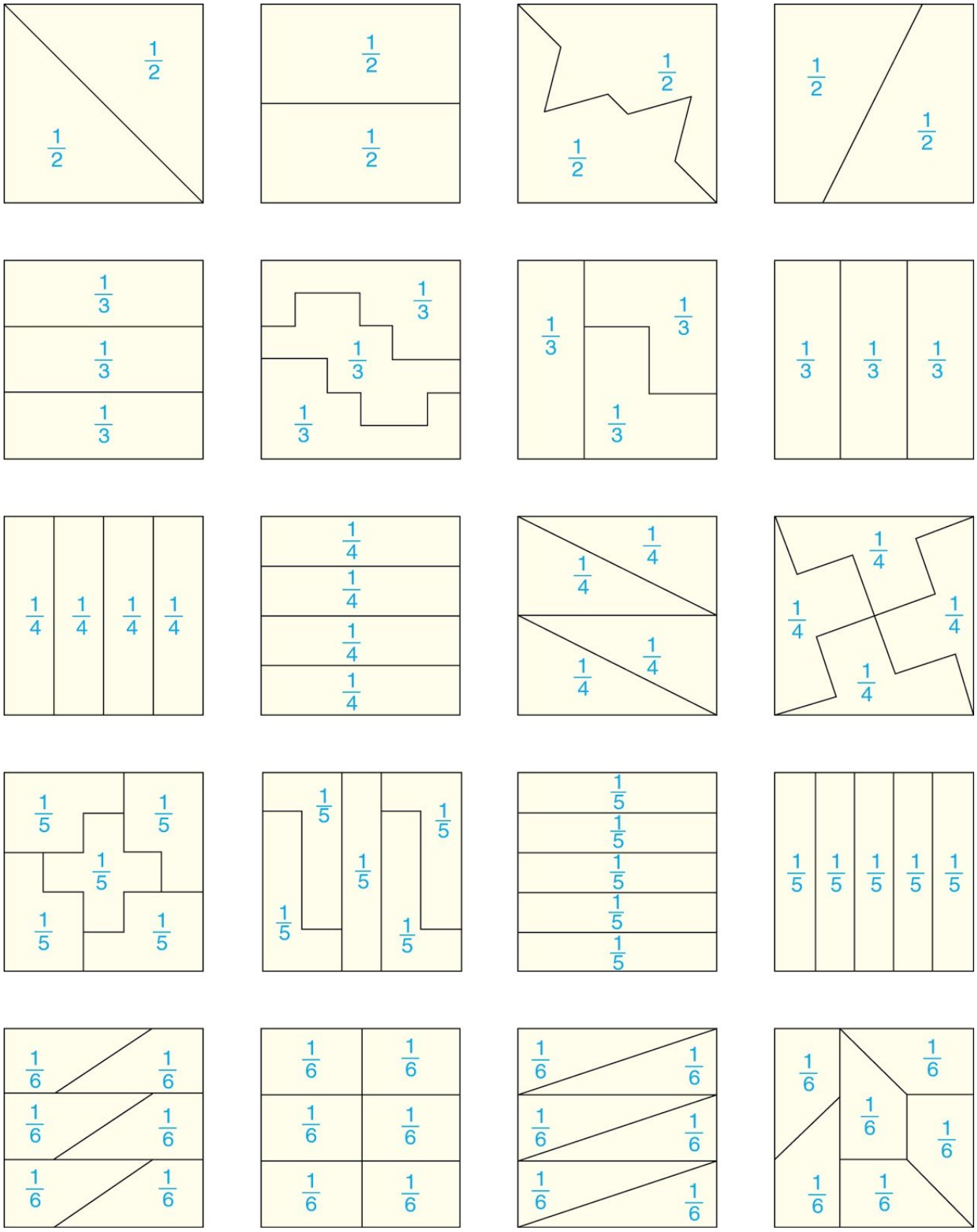
3. If, instead, one quarter were apples and one quarter were oranges and there were also 4 bananas, 3 pears, and 3 plums, how many would be apples?

4. Find the sums:

$\frac{2}{5} + \frac{3}{4} =$

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

Fraction Grab Gameboard



Name _____ Date: _____

5.3 LS3 Day 1 Fraction Grab Homework

Use the Fraction Grab gameboard to help you with these questions.

1. If you roll a 3 and a 4, what are the two different fractions you could make?

_____ and _____

Express one of the above fractions as a mixed number _____

Which of the two fractions would you rather use and why?

2. In the fifths row, shade in ⅗ . Are you able to grab it (is it over ½)? Why or why not?

3. If your opponent has claimed 2/6 of a sixths square, what do you need to roll in order to block that person and grab the square?

Name _____ Date: _____

5.3 LS3 Day 2 HW

1) Rewrite each of these mixed numbers using the example as a model:

Example: $9\frac{2}{5} = 1 + 8\frac{2}{5} = \frac{5}{5} + 8\frac{2}{5} = 8\frac{7}{5}$

$4\frac{3}{7} = \quad = \quad = 3\frac{?}{7}$

$7\frac{5}{9} = \quad = \quad =$

$5\frac{4}{3} = \quad = \quad =$

2) Estimate and then find the exact answer:

29.25 + 41.06

Estimate: Exact answer:

3) Name 3 decimals whose sum is 0.08:

Name 5 decimals whose sum is between 2 and 3.

Name 2 decimals with a difference of 0.35.

Name _____ Date: _____

5.3 LS3 Day 3 HW

Hannan's hat store sells hats in 4 sizes. Here are the diameters of each hat:

Type/Size	S (small)	M (medium)	L (large)	XL (extra large)
Diameter in inches	21 ½	22 ¼	23	23 ¾
Diameter in cm	54.5	56.5	58	60.5

1) How much bigger is the diameter of a medium hat than a small?
Inches:

cm:

2) How much bigger is the diameter of an extra large hat than a small?
Inches:

Cm:

3) If your head measured 23 ¼ inches, which hat would you buy? Explain your reasoning.

Name _____ Date: _____

5.3 LS3 Day 4 HW

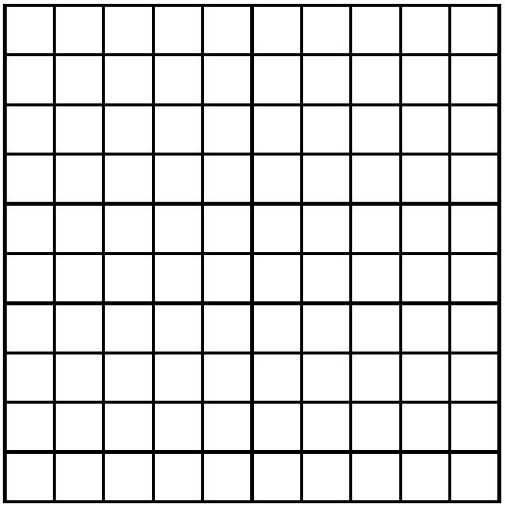
1) Solve:

$5\frac{2}{9} + 4\frac{2}{9} =$

$6\frac{1}{4} - 3\frac{1}{8} =$

2) Shade in squares to show 0.06 + 0.35

The big square = 1 whole



3) Put these fractions and decimals in order from smallest to largest.

0.8 $\frac{1}{4}$ .08 $\frac{8}{10}$

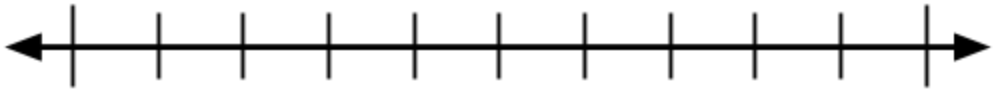
4) Explain how you ordered them:

Name _____ Date: _____

5.3 Milestone Task HW

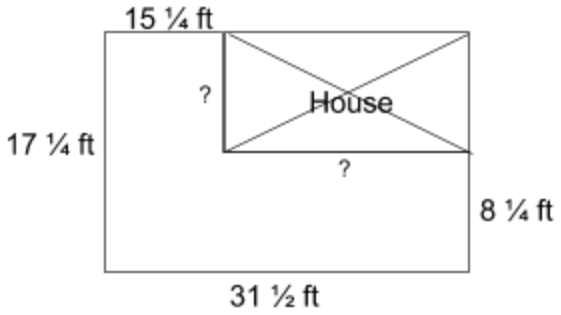
1) Place each of these mixed numbers *about* where they belong on the number line:

$8\frac{2}{5}$ $4\frac{3}{7}$ $7\frac{5}{9}$ $2\frac{1}{5}$



2) Eleanor practices piano for ¾ of an hour every day. How long does she practice in a week? (She practices on weekends, too!)

Dante's mom wants to build a fence around their yard. Here are the measurements of the yard:



3) What are the measurements of the missing sides of the yard?

4) How long will the fence be?