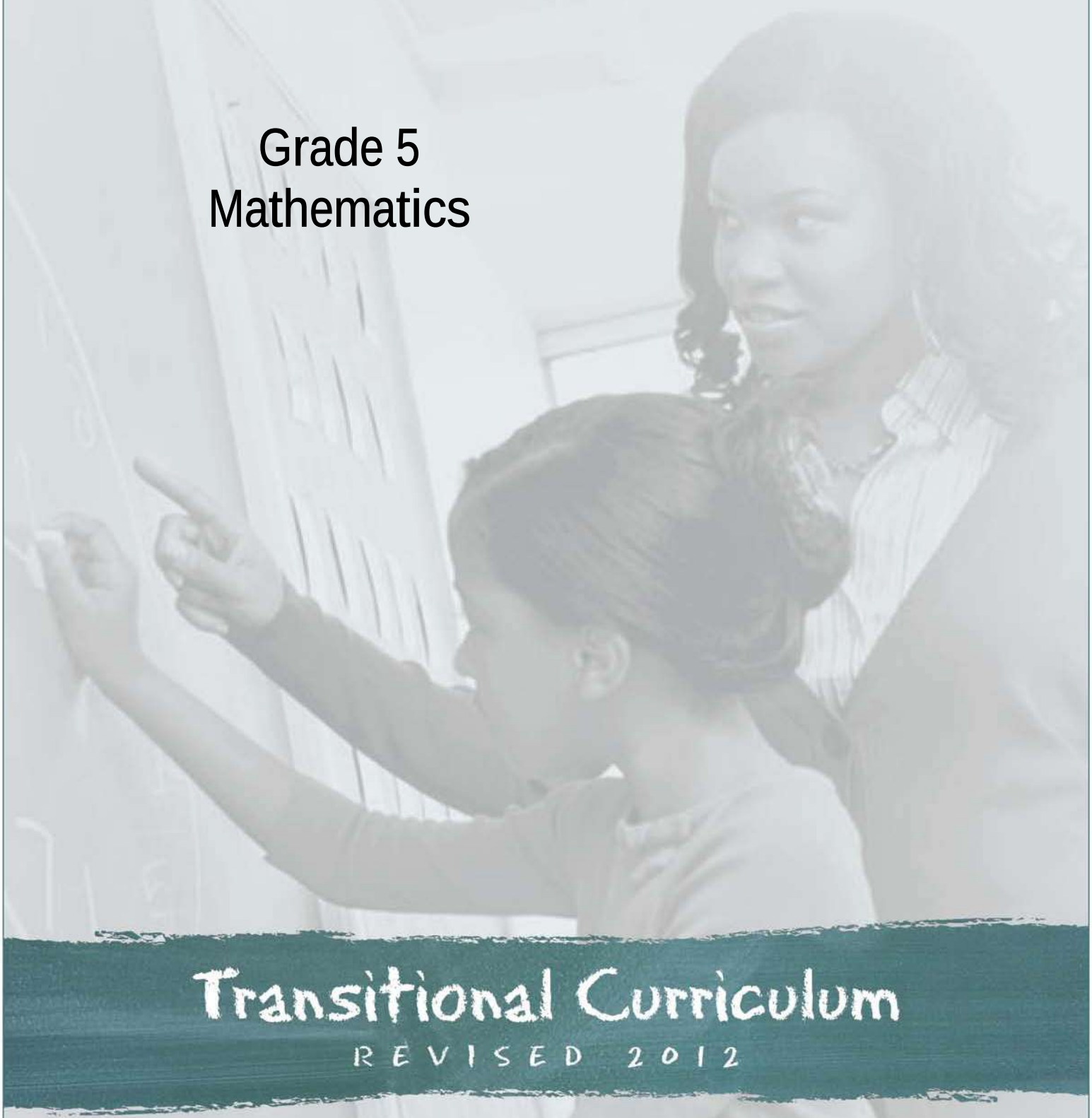
Louisiana Believes.

GLE Grade-Level Expectations

COMMON CORE STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Grade 5 Mathematics



Transitional Curriculum

REVISED 2012

BLACKLINE MASTERS

LOUISIANA DEPARTMENT OF EDUCATION

Unit 1, Activity 1, Place Value Chart

Name: _____ Date: _____

Millions			**Thousands**			**Ones**		
hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

Unit 1, Activity 4, Addition and Subtraction Self-awareness Chart, Page 1

Name: _____ Date: _____

Word/Phrase	**+**	**√**	**–**	**Example**	**Definition**
Altogether					
Decrease					
Difference					
Down					
Earn					
In all					
Increase					
Increment					
Less					

Word/Phrase	+	√	–	**Example**	**Definition**
Loss					
Minus					
More					
Plus					
Spend					
Sum					
Total					
Up					

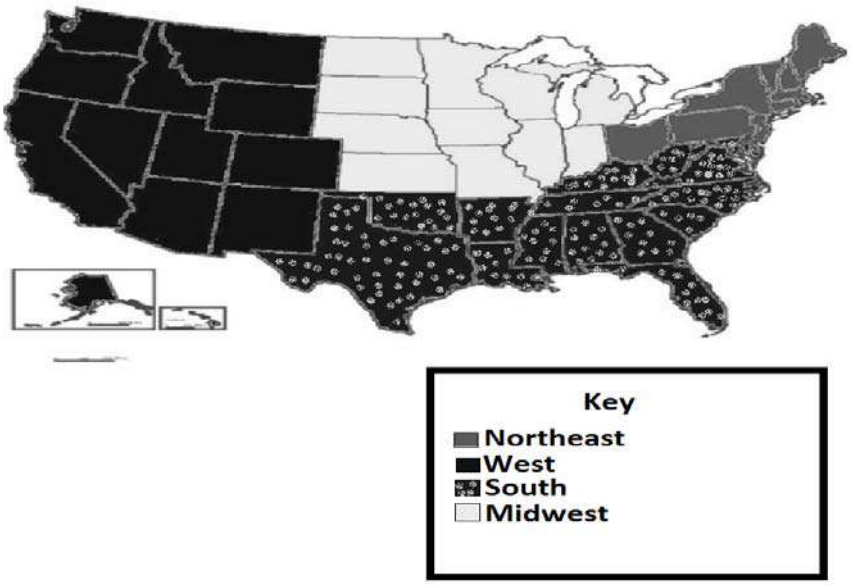
Instructions:

1. Rate your understanding of each word with either a "+" (understand well), a "√" (some understanding), or a "–" (don't know).
2. As you complete activities during this unit, revisit your chart and fill in examples and definitions in your own words.
3. Your goal is to have all plus signs at the end of the activities with appropriate examples and accurate definitions.

Unit 1, Activity 7, U. S. Census Bureau Data Sheet

Name: _____ Date: _____

U. S. State Regions



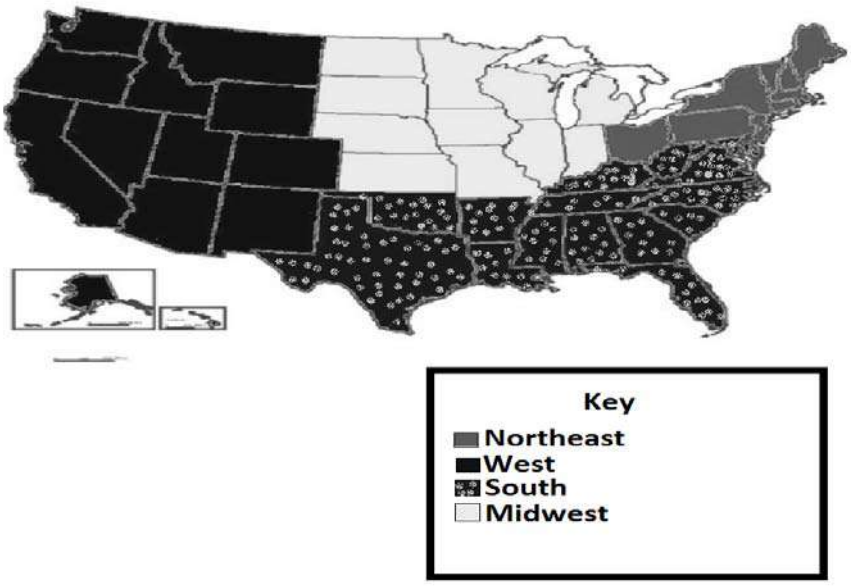
Problem Prompt: It is your first day of work at the U. S. Census Bureau. They were impressed with your interview and believe you have the mathematical skills to proof the Census report before it is printed and distributed to the public. They have assembled a Louisiana team to perform the task, and you are one of the members. First, you've been asked to check the population change in the "Change" column to make sure the change in population for each region from 2000-2010 is correct. Then, you will give the total population for the entire United States in the year 2010. In addition to this task, you are asked to find the population change for the state of Louisiana and enter that information in the table. You will work with your team in order to complete these tasks.

State Region	Population		Change	
	Year 2000	Year 2010	Mark X if wrong	Place Correct Number Here
Northwest	53,594,378	55,317,240	☐ 1,712,872	_____
Midwest	64,392,776	66,927,001	☐ 2,534,225	_____
South	100,236,820	114,555,744	☐ 214,792,564	_____
West	63,197,932	71,945,553	☐ 8,747,521	_____
Total Population	281,421,906	_____		
Louisiana	4,468,976	4,533,372		_____

Unit 1, Activity 8, U. S. Census Bureau Data Sheet with Answers

Name: _____ Date: _____

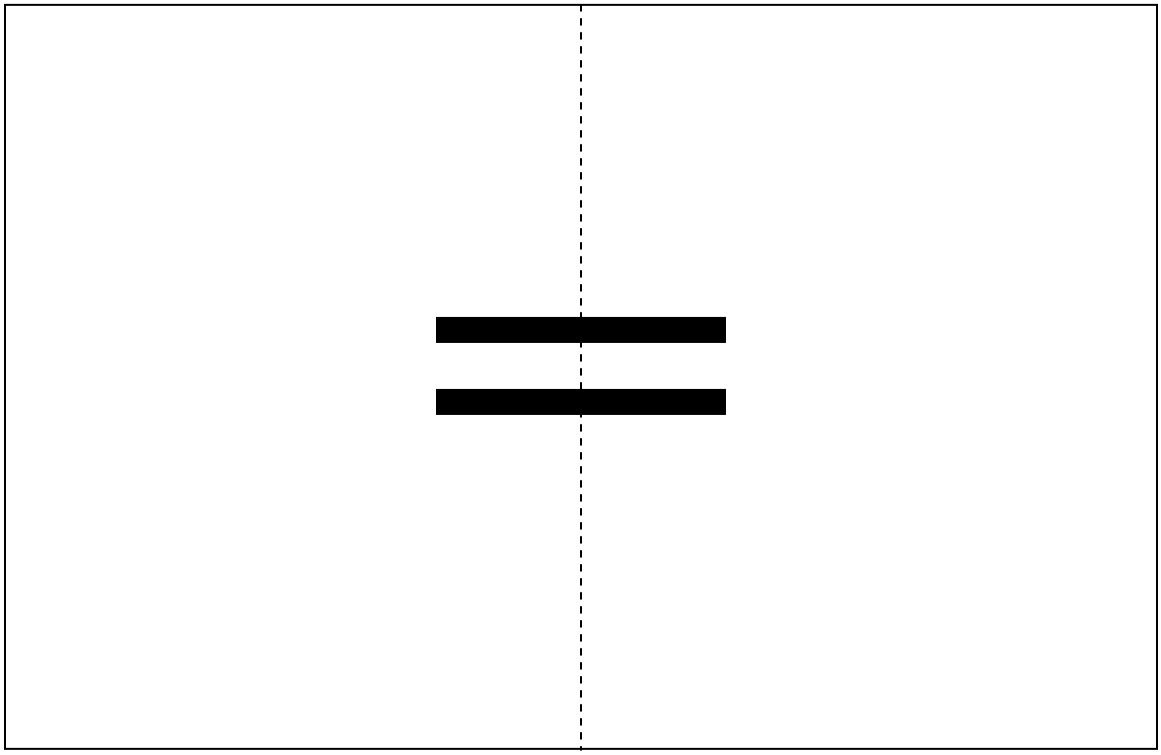
U. S. State Regions

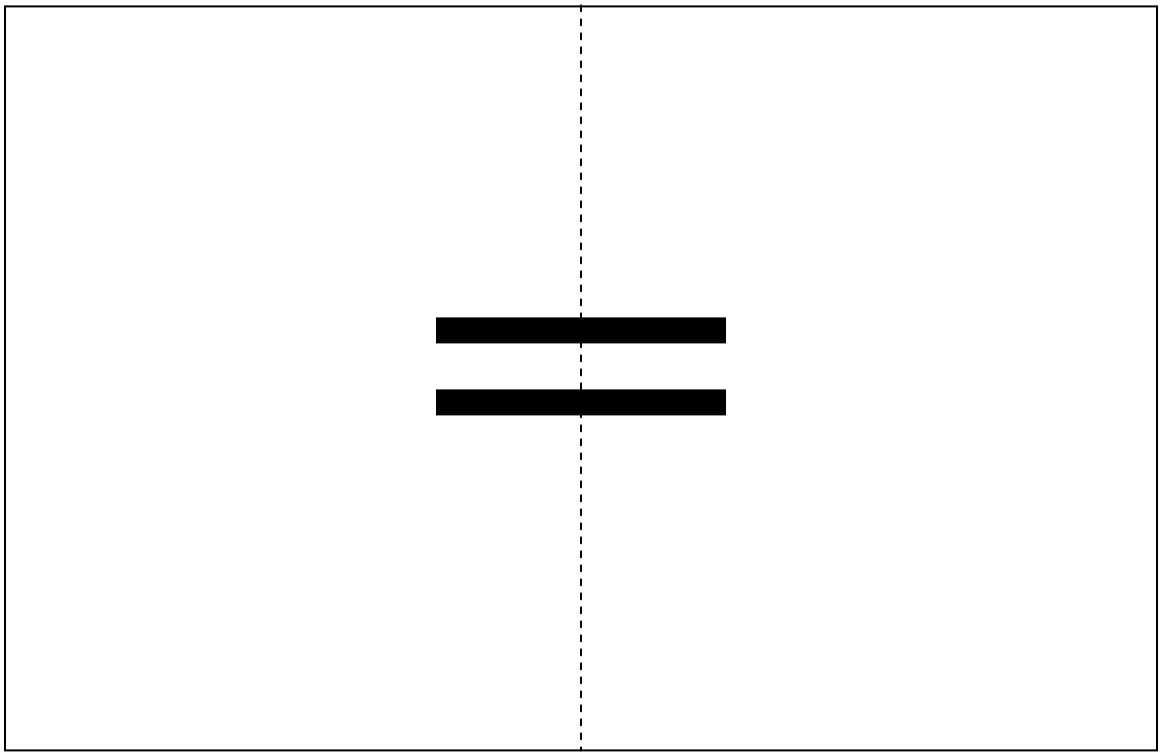


Problem Prompt: It is your first day of work at the U. S. Census Bureau. They were impressed with your interview and believe you have the mathematical skills to proof the Census report before it is printed and distributed to the public. They have assembled a Louisiana team to perform the task, and you are one of the members. First, you've been asked to check the population change in the "Change" column to make sure the change in population for each region from 2000-2010 is correct. Then, you will give the total population for the entire United States in the year 2010. In addition to this task, you are asked to find the population change for the state of Louisiana and enter that information in the table. You will work with your team in order to complete these tasks.

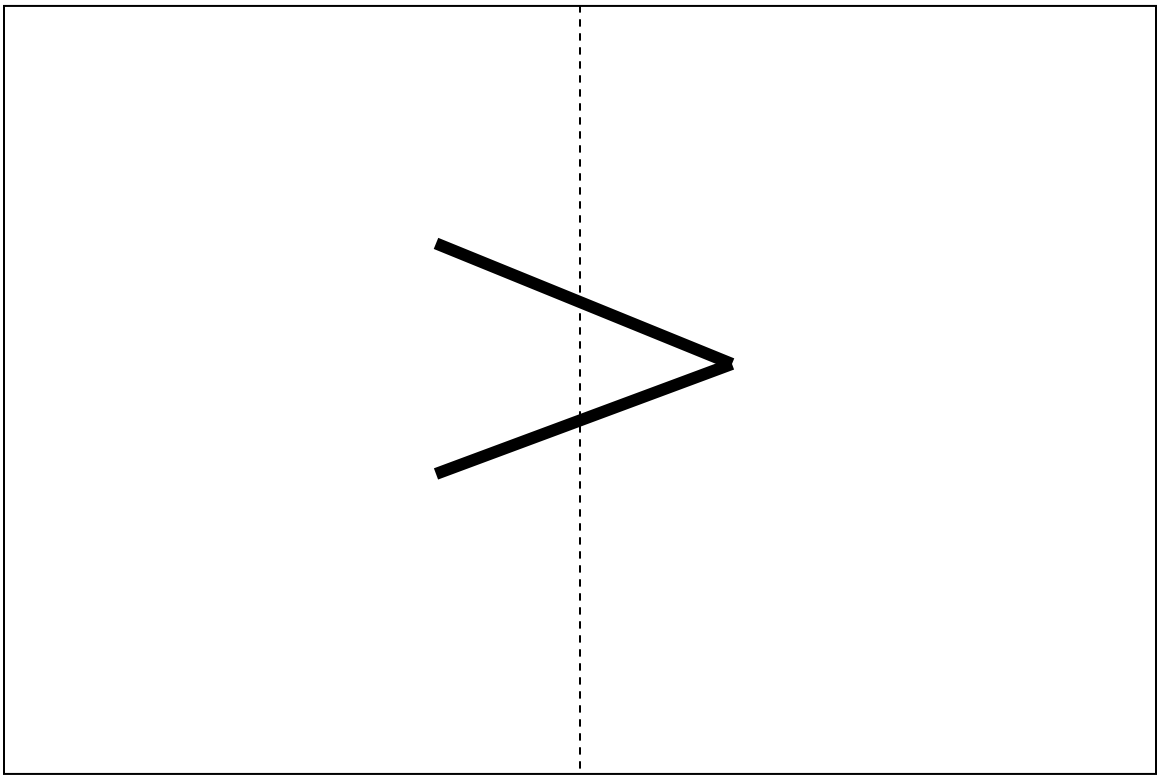
State Region	Population		Change	
	Year 2000	Year 2010	Mark X if wrong	Place Correct Number Here
Northwest	53,594,378	55,317,240	X 1,712,872	*1,722,862*
Midwest	64,392,776	66,927,001	☐ 2,534,225	*Correct as is*
South	100,236,820	114,555,744	X 214,792,564	*14,318,924*
West	63,197,932	71,945,553	X 8,747,521	*8,747,621*
Total Population	281,421,906	308,745,538		
Louisiana	4,468,976	4,533,372		*64,396*

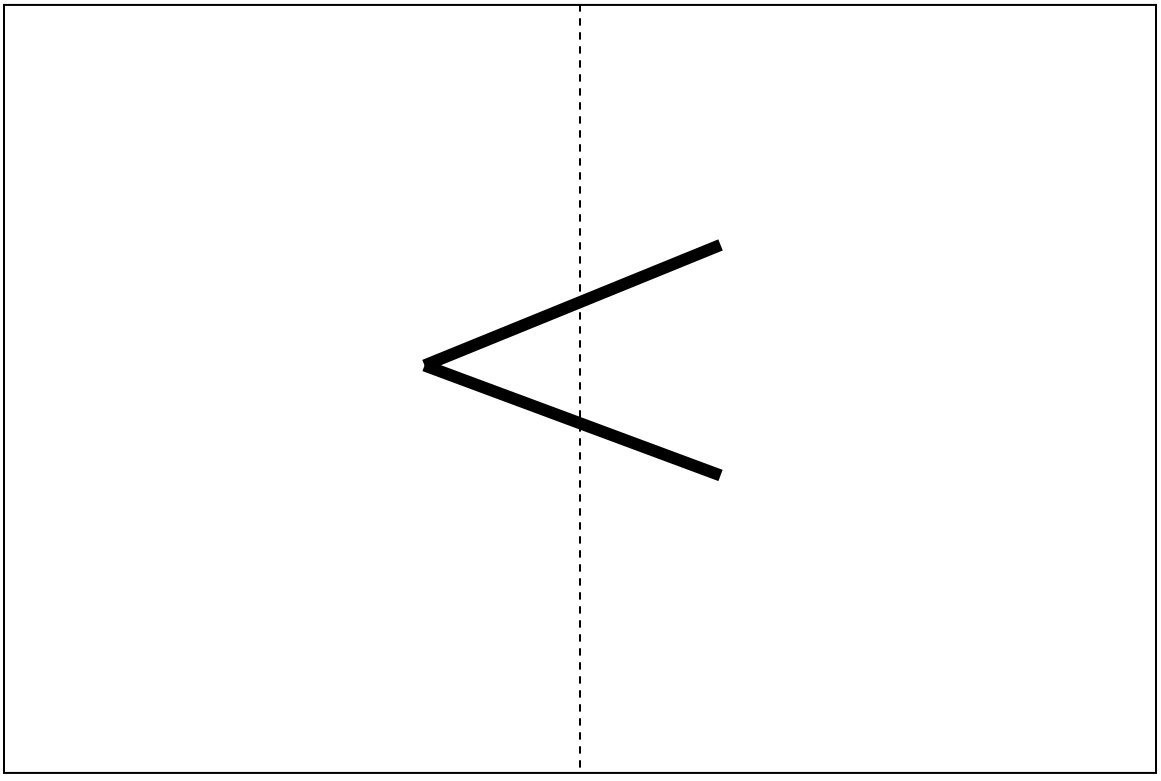
Name: _____ Date: _____





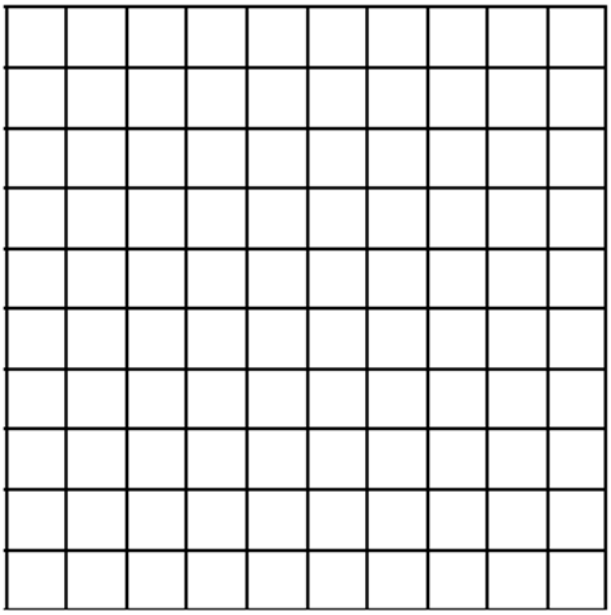
Name: _____ Date: _____



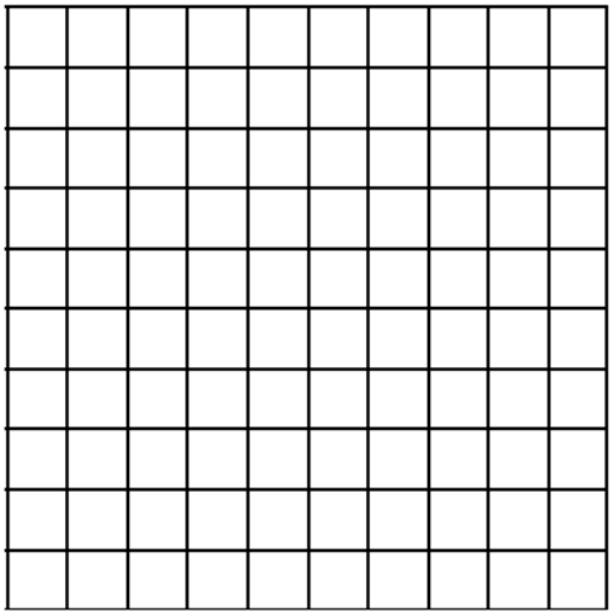


Unit 1, Activities 10, 16, and 17, Hundreds Grid

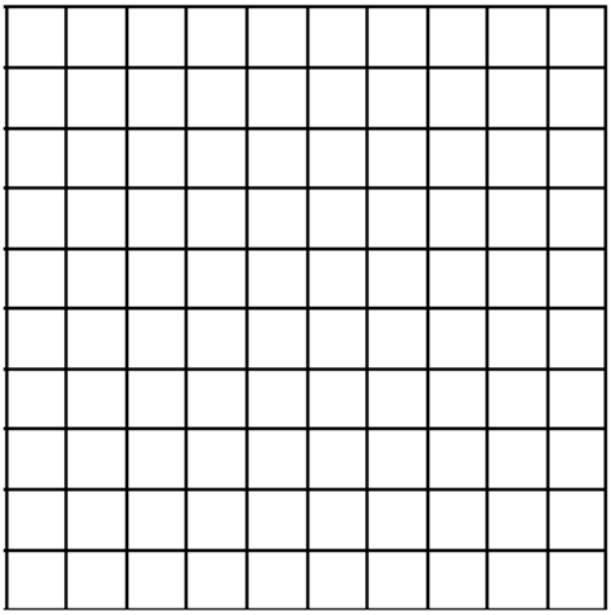
Name: _____ Date: _____



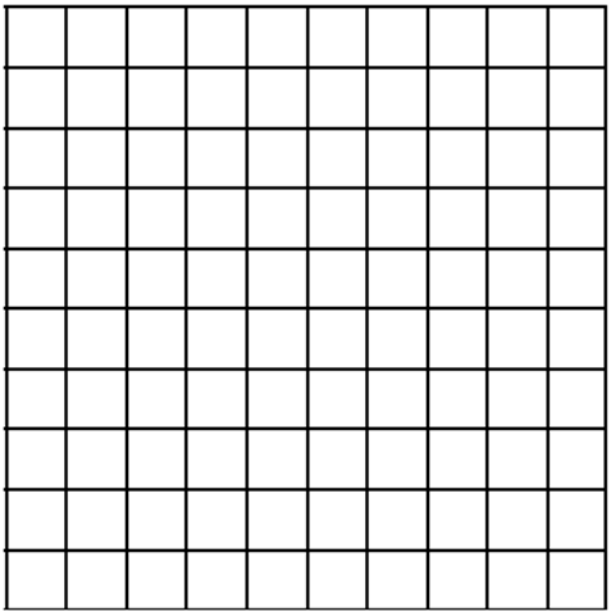
_____



_____



_____



_____

Name: _____ Date: _____

Whole Numbers			•	**Decimals**		
hundreds	tens	ones	•	tenths	hundredths	thousandths

Place Value Global, Inc.

123 Number Way
Baton Rouge, Louisiana 70810

October 20, 2011

Tim Tenth
1234 Numeracy Lane
Number Town, Louisiana 12345

Dear Mr. Tenth:

We sincerely thank you for your interest in our company. We realize you have the ability to hold your place and you give the value of tenth to any digit that stands in your place. We also understand that you have the ability to adjust to having a value of more than nine in your place by giving the extra one tenth to the ones place.

We are sorry to inform you that we are not able to extend an offer to you at this time. We are pursuing a candidate who more closely fits our job requirements. Your value is a tenth of a whole. In order to adequately fill the position you would have to be 10 times the size you are currently. You are currently under-qualified to be considered a candidate at this time.

Although you do not qualify for this opening, we encourage you to watch the bulletins, television, newspaper and website ads for openings that may be applicable to your skills.

We wish you well in your job searching.

Sincerely,

Nancy Number-Scouter
Human Resource Manager

Place Value Global, Inc.

123 Number Way

Baton Rouge, Louisiana 70810

_____

_____

_____

_____

_____:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

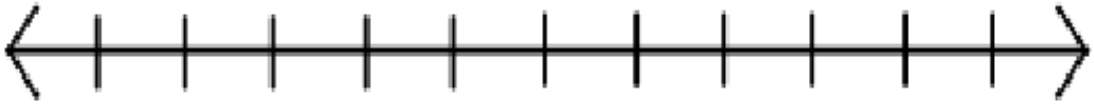
_____

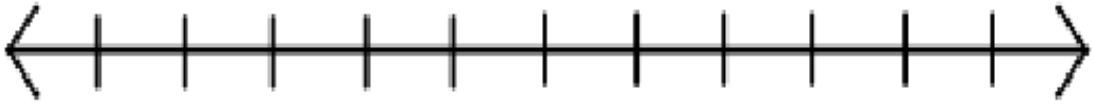
_____,

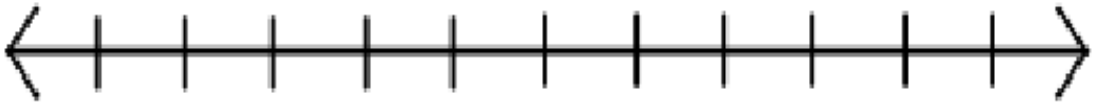
_____

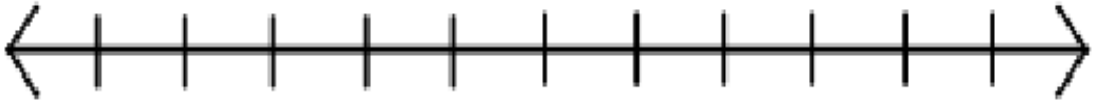
_____

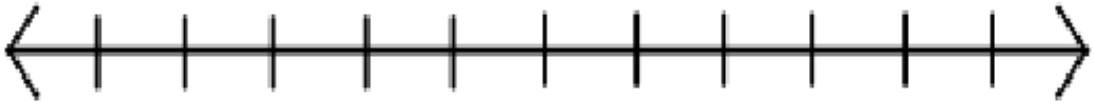
Name: _____ Date: _____











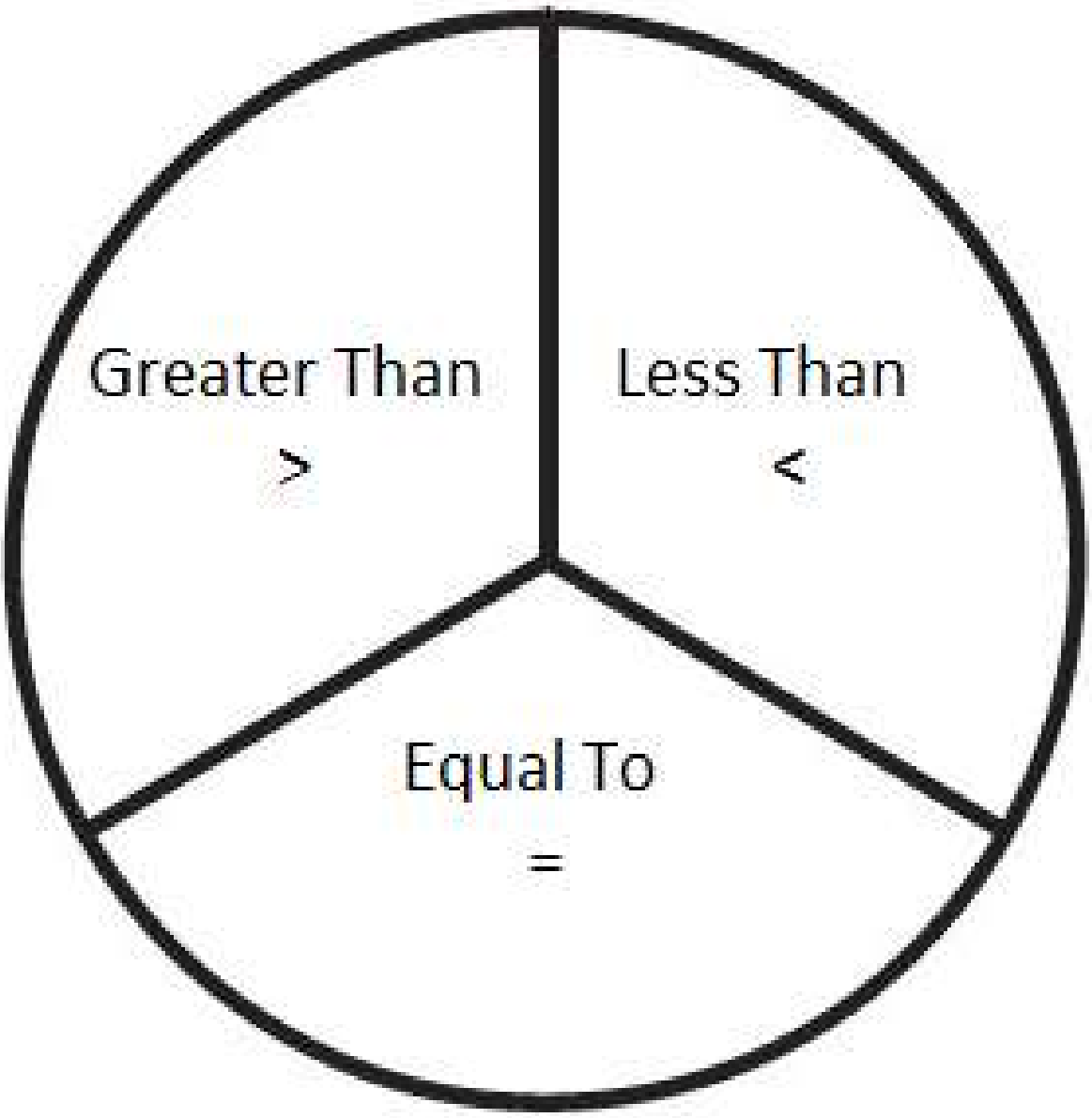
Unit 1, Activity 15, Probable Comparisons

Name: _____ Date: _____

Directions: Take turns spinning the Spinner. Use the decimals on this sheet to compare. When the comparison is spun, choose two of the three decimals in the set to compare and write the comparison. For example: If you spin "<," you could write "10.02 < 10.03." You must agree on the comparison. Move on to the next set of decimals taking turns until all sets are completed.

Set	Comparison Spun	Decimals Chosen to Compare
EXAMPLE *10.03, 10.02, and 10.030*	*less than <*	*10.02 < 10.03*
35.689, 35.625, and 35.6890		
3.44, 3.49, and 3.490		
10.200, 10.20, and 10.13		
1.99, 2.85, and 2.850		
0.21, 0.43, and 00.43		
52.4058, 52.5048, and 52.50480		
102.987, 101.698, and 101.6980		
7.304, 7.3400, and 7.340		

0.788, 0.971, and 00.971		
0.212, 0.906, and 0.2120		


Greater Than
>
Less Than
<
Equal To
=

Learning Log
of _____

Date:

Assignment:

Before and during reading, I made one or more predictions:

While reading, I discovered that my predictions were supported because of this evidence:

While reading, I discovered that my predictions were <u>not</u> supported because of this evidence:

Questions I had while reading:

New understandings discovered during reading:

New vocabulary discovered during reading:

Connections to other things I know about:

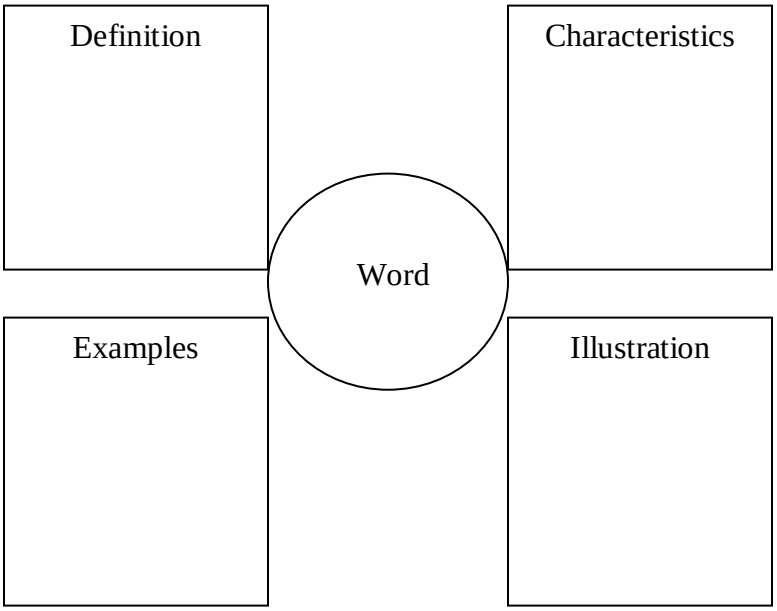
Reflections:

Vocabulary Self-Awareness Chart

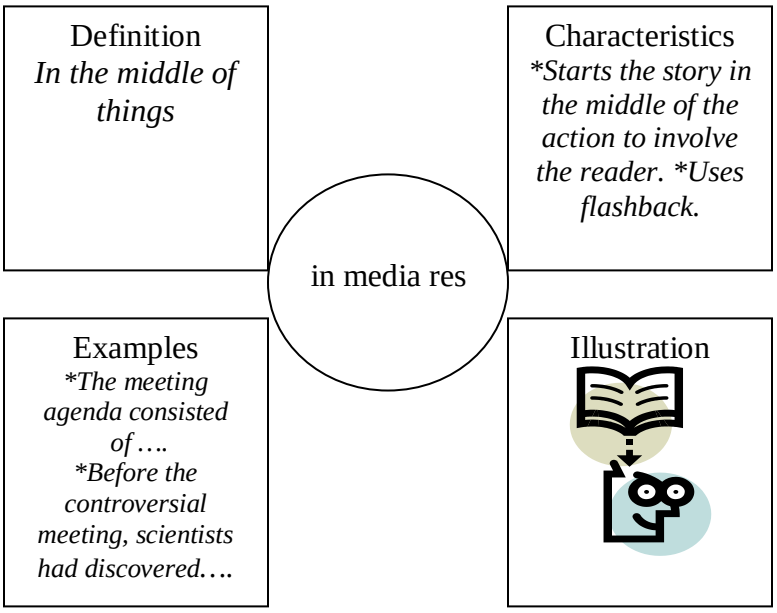
Name: _____ Date:_____

Word	+	√	-	Example	Definition
lead paragraph					
body					
conclusion					
details					
clarity					
headline					
byline					
photo caption					
headings					
subheadings					
indentations					
bullets					

Vocabulary Card Template



Sample Vocabulary Card



Opinion Questions

1. Should students be required to wear uniforms to school?
2. Do students learn better working alone or in groups?
3. Is homework an important part of learning?
4. At what age should a teenager be allowed to go to the mall or a movie without a parent?
5. What age should a person be when receiving his/her first cell phone?
6. How much money should a ten year old receive in a weekly allowance?
7. Why do you think young people attempt to solve problems through violence?
8. Is it better to be an only child or have siblings?

Note: These are suggested questions. Other teacher-generated questions may be used to complete this activity, based upon relevance to students.

Name _____ Date _____

Support Your Opinion

Directions: As the teacher asks each question, write down your opinion on the topic. List two facts or details to support each opinion. Use words or phrases, such as *consequently* and *specifically,* to link your facts and details to your opinion.

Opinion	Facts or Details to Support the Opinion
1.	#1 – #2 –
2.	#1 – #2 –
3.	#1 – #2 –
4.	#1 – #2 –
5.	#1 – #2 –
6.	#1 – #2 –

Three-Column Chart

Title of Article:			
TOPIC	**DETAILS**	**RESPONSE**	
		Classmates	**Mine**
Main Idea:			
Facts: #1- #2- More-			
Opinions: #1- #2- More-			
Final Response:			

Name _____ Date _____

Characteristics of Opinion Articles

Directions: Place a check by each characteristic that can be found in your opinion article. Give an example of each characteristic.

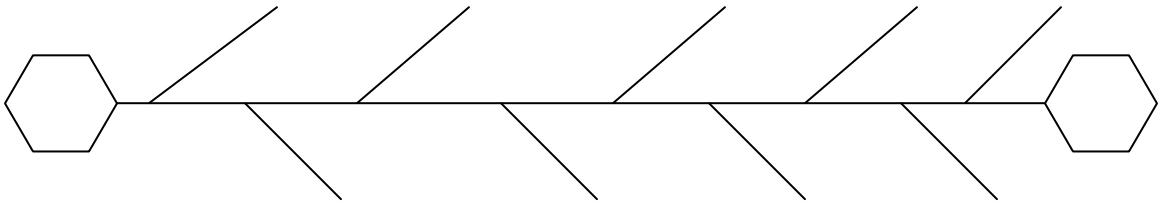
Characteristic	Check	Example
A position, stance, or point of view is clearly stated in the opinion article.		
Ideas are logically ordered.		
Ideas support the author's purpose for writing.		
Facts and details are used to support the author's opinion.		
Opinions and reasons are linked using words, phrases, and clauses.		
A concluding statement supports the author's opinion.		

Unit 3, Activity 12, Timeline

Name: _____ Date: _____

TIMELINE

Directions: Complete the timeline by identifying important events in a selected person's life. First, record the name of the person selected, date and place of birth in the hexagon on the left. On each diagonal line describe briefly one event. Record the date and place of death in the hexagon on the right.



Questioning the Content

Name: _____ Date: _____

Goal	Query
Initiate discussion.	What is the content about? What is the overall message? What is being talking about?
Focus on content's message.	It says this, but what does it mean? Why was this word used?
Link information.	How does that connect with what was said earlier? What information has been added here that connects or fits in with _____?
Identify problems with understanding.	Does that make sense? Does the timeline of events make sense? Is this explained clearly? Why or why not? What do we need to figure out or find out?
Encourage students to refer to the text to find support for interpretations and answer to questions.	Did the content tell me that? Did the source provide the answer to that?

Autobiography Planning Sheet

Name _____ Date _____

Information Prompts	Information
Person's name, date of birth, and birthplace	
Personal Background (i.e., Where have you lived? How many people are in your family? Are you the oldest, middle, youngest child, or an only child? Do you have more than one generation living in your household?)	
Personality Traits (What words best describe your personality? How do other people describe you?)	
Significance (i.e., What is something that you have done that you think is important in relation to other people? What is one skill that makes you unique?)	
Biggest Obstacle (i.e., What has been the most challenging event of your life? Why has it been so difficult?)	
Favorite Phrase	

Mobile Rubric

Exceeds Expectations 5 points	**Meets Expectations 3 points**	**Approaches Expectations 1 point**
Pictures reflect location of birth, location of school, location pertinent to life.	Pictures reflect some of the following: location of birth, location of school, location pertinent to life.	Pictures do not reflect important events in life of person.
Pictures are clear and easily visible.	Pictures are relatively clear and partially visible.	Pictures are not clear and easily visible.
Pictures relate to contributions of person.	Pictures relate somewhat to contributions of person.	Pictures do not relate to contributions of person.
Dates reflect major events or transition points in the person's life.	Dates reflect either major and minor events or transition points in the person's life.	Dates do not reflect major events or transition points in the person's life.
Dates that are selected help to tell the story of the person's life.	Dates that are selected aid in understanding most of the story of the person's life.	Dates do not relate the story of the person's life.
Dates are easily visible.	Dates are reasonably visible.	Dates are not easily visible.
Vocabulary or key words reflect contributions, quotes, personal phrases, achievements, characteristics, etc.	Vocabulary or key words moderately reflect contributions, quotes, personal phrases, achievements, characteristics, etc.	Vocabulary or key words do not reflect contributions, quotes, personal phrases, achievements, characteristics, etc.
Vocabulary or key words chosen reflect human qualities or traits emphasized in the report.	Vocabulary or key words chosen reflect to some extent the human qualities or traits emphasized in the report.	Vocabulary or key words chosen do not reflect human qualities or traits emphasized in the report.
Vocabulary is easily visible and readable.	Vocabulary is reasonably visible and readable.	Vocabulary is not easily visible and readable.
Maps indicate information that could not have been shown in another manner.	Maps reasonably indicate information that could not have been shown in another manner.	Maps fail to indicate needed information.
Maps are clear and easily visible.	Maps are moderately clear and visible.	Maps are not clear and easily readable.

Unit 4, Activity 12, Vocabulary Card Template

Vocabulary Card Template

Definition	Characteristics
Word	
Examples	Illustration

Vocabulary Card Sample

Definition	Characteristics
A female in the story is in trouble and needs to be rescued.	• Princess captured by enemy • Lady finds trouble along a journey • Hero put in danger to rescue the damsel
damsel in distress	
Examples	Illustration
• *Herbert, the Timid Dragon* • *The Princess Bride*	

Identification of Theme Table

Name: _____ Date: _____

Directions: To begin, use the following table to record information about each short story title read. You may refer to the list created in your learning log. Next, determine the main theme of each story read. Locate and list one or more quotes to support your identification of theme.

Title (List title and subtitle, if available)	**Author** (List last name, first name)	**Theme** (List the most important theme of the short story)	**Quotes** (List one or more quotes to support the identified theme. Include the page number on which you found the quote.)

Comparing and Contrasting Two Adventure Stories

	Story 1 -	**Story 2 -**
Characters: Note the similarities and differences in the main characters' physical descriptions, thoughts, feelings, words, actions, and response by and toward other characters in the story.		
Settings: Where does each story take place? How does the setting of each story affect the development of events?		
Events: List the main events from each story, noting similarities and differences.		
Conflicts: Explain the internal and external conflicts of each story. Describe how the conflicts from each story are similar and different.		
Themes: What are the common themes in the stories? What is different about the story themes?		

Name: _____ Date: _____

Poetry Anticipation Guide

Directions: After each statement, write "agree" or "disagree." Then in the space provided, briefly explain your answer using examples from the displayed poems and poet biographies.

1. Poetry was one of the earliest forms of writing. _____

   Your reasons:

2. Poems tell stories, describe scenes, capture a mood, and can be humorous. _____

   Your reasons:

3. Poems can be placed in 3 main categories. _____

   Your reasons:

4. Narrative poetry tells a story. _____

   Your reasons:

5. Dramatic poetry describes a scene or a setting. _____

   Your reasons:

6. Shel Silverstein writes humorous poems. _____

   Your reasons:

7. All poems rhyme. _____

   Your reasons:

8. Poems are written in paragraphs. _____

   Your reasons:

Vocabulary Self-Awareness Chart

Name: _____ Date:_____

Word	**+**	**√**	**-**	**Example**	**Definition**
word choice					
imagery					
mood					
tone					
style					

Poetry Process Guide

Name: _____ Date: _____

Directions: Select one poem. As you read, focus on the author's use of literary devices. Record your notes and responses on this sheet while reading the poem. Finally, explain how the author's word choice and use of imagery enhance the mood, tone and style of the poem.

- Word choice:

  Impact of word choice:

- Imagery:

  Impact of imagery:

- Mood:

  Impact of mood:

- Tone:

  Impact of tone:

- Style:

  Impact of style:

Explain the relationship between the elements you identified. How does this poem appeal to one's senses?

Vocabulary Card Template

Definition	Characteristics
Word	
Examples	Illustration

Sample Vocabulary Card

Definition *Two unlike things are compared.*	Characteristics • Usually uses the words *like* or *as.* • Create an image in the reader's mind.
simile	
Examples *You swim like a fish!* *This student is as quiet as a mouse.*	Illustration 

Figurative Language

Name: _____ Date: _____

Directions: Use poems and song lyrics that you have read to identify ten or more examples of each poetic device studied. Then describe how the literary devices and word choice affect the mood of the poem, appeal to the senses, and set the tone of the within a poem or song. Finally, ask peers to check whether you have identified the examples correctly and to provide feedback.

List the poem titles below.	**Simile**	**Metaphor**	**Personification**	**Hyperbole**	**Idioms**	**Adages**	**Proverbs**	**Visual Elements**	**Impact on mood, tone, and style**	**Correct Use** (initialed by peer)	**Feedback**
Poem # 1 _____											
Poem # 2 _____											
Poem # 3 _____											
Poem # 4 _____											
Poem # 5 _____											
Poem # 6 _____											

Analyzing Poetry

Directions: Fill in the table below using your poem. Use the information that you gather to write a multi-paragraph composition to analyze your poem.

1. What is the title of the poem?	
2. Who is the author of the poem?	
3. Is this a narrative, lyric, dramatic, or humorous poem? Use text-based evidence to support your answer.	
4. List at least three different types of figurative language used in the poem. Then, cite the figure of speech from the poem, and explain how each relates to the meaning of the poem.	
5. What is the theme of this poem? Use at least 3 text-based pieces of evidence to support your answer.	
6. Are there any visual images that accompany the poem? If so, how do they contribute to the meaning of the text?	
7. Would you recommend this poem to a friend for reading? Use evidence from the poem to support your answer.	

Unit 6, Activity 9, Vocabulary Self-Awareness Chart

Vocabulary Self-Awareness Chart

Name: _____ Date:_____

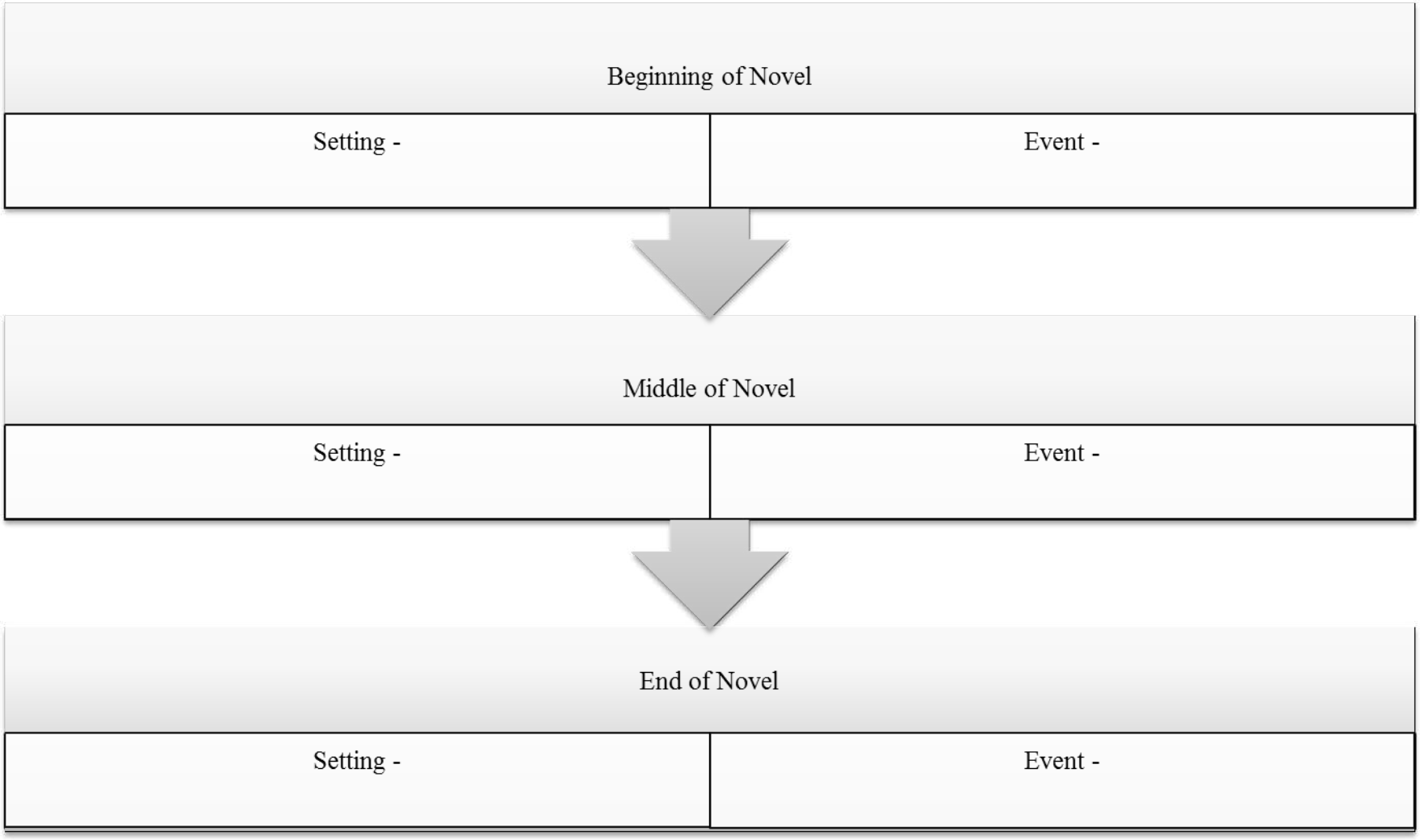
Word	**+**	√	**-**	**Example**	**Definition**

Definition	Characteristics
Word	
Examples	Illustration

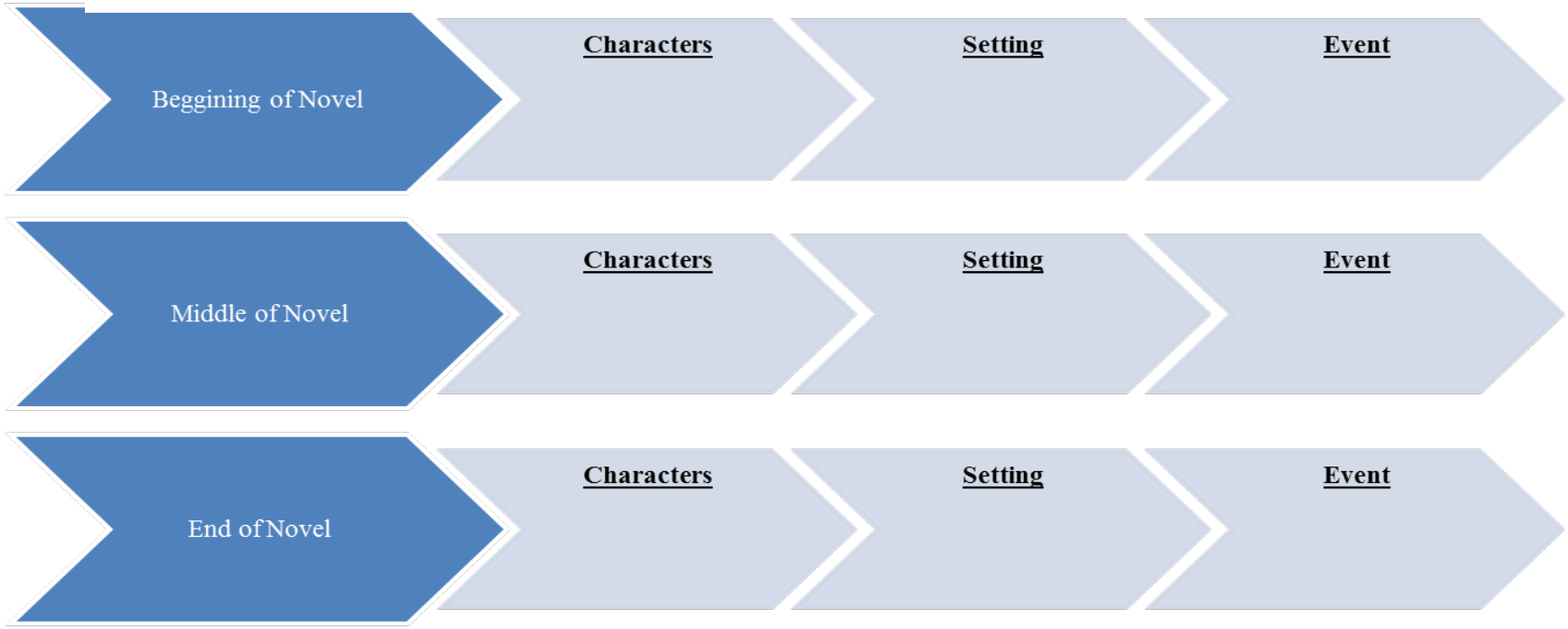
Definition	Characteristics
Having a sharp or uneven edge.	• Two-syllables • Adjective • Synonym – uneven surface • Antonym – smooth surface
jagged	
Examples	**Illustration**
• Mountains • Knife • Alligator's teeth	

Figurative Language	Example from Novel	Impact on Tone, Mood, and Style	Feedback
Simile			
Metaphor			
Personification			
Hyperbole			
Idioms			

Name _____ Novel _____


Beginning of Novel
Setting -
Event -
Middle of Novel
Setting -
Event -
End of Novel
Setting -
Event -

Name _____ Novel _____


Beggining of Novel
Characters
Setting
Event
Middle of Novel
Characters
Setting
Event
End of Novel
Characters
Setting
Event

Unit 2, Activity 1, Multiplication Properties

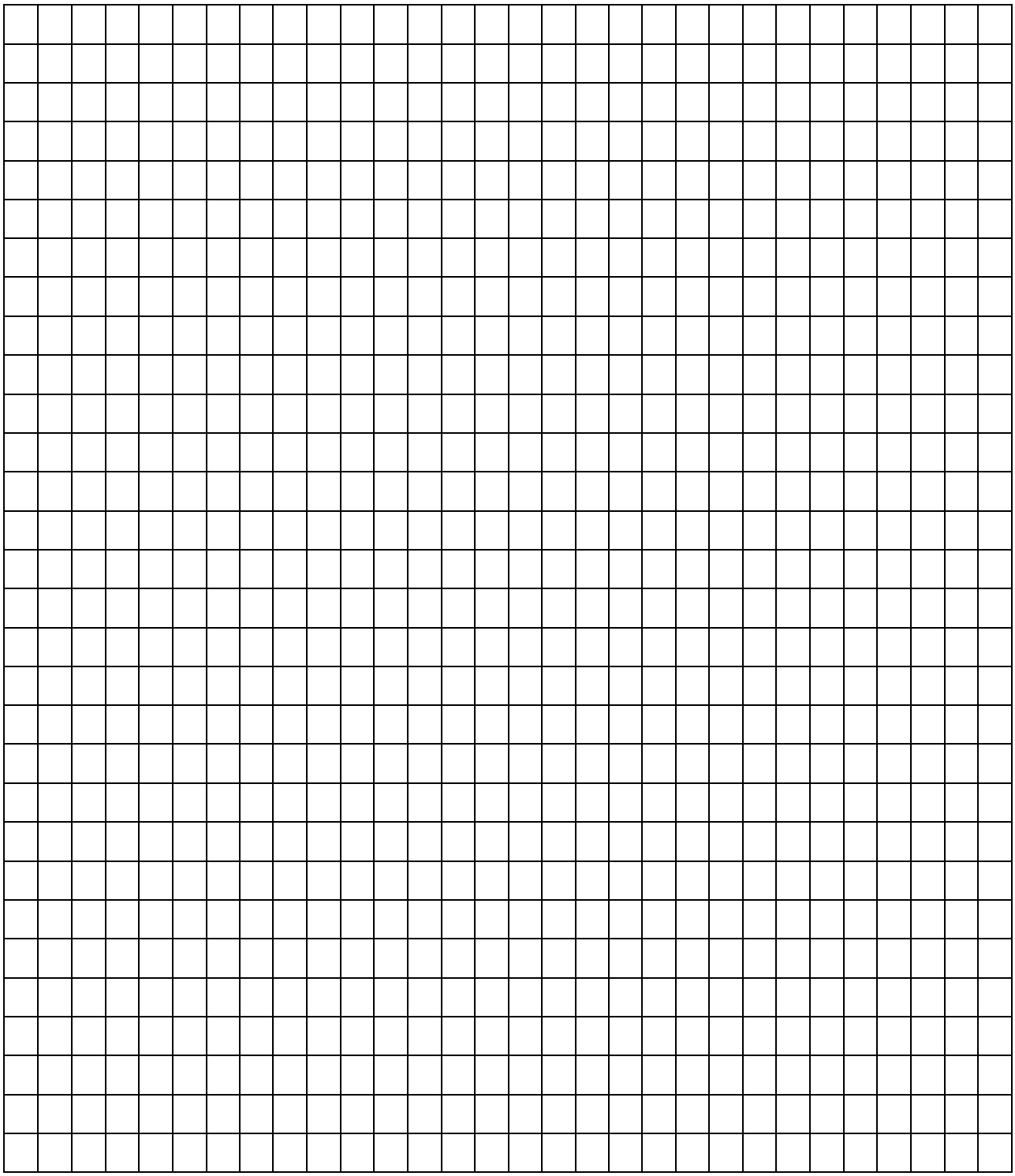
Name: _____ Date: _____

Word/Phrase	**+**	**√**	**–**	**Example**	**Definition**
Commutative Property					
Associative Property					
Distributive Property					
Identity Property					
Zero Property					

Instructions:

1. Rate your understanding of each word with either a "+" (understand well), a "√" (some understanding), or a "–" (don't know).
2. As you complete activities during this unit, revisit your chart and fill in examples and definitions in your own words.
3. Your goal is to have all plus signs at the end of the activities with appropriate examples and accurate definitions.

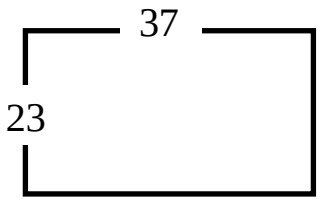
Name: _____ Date: _____



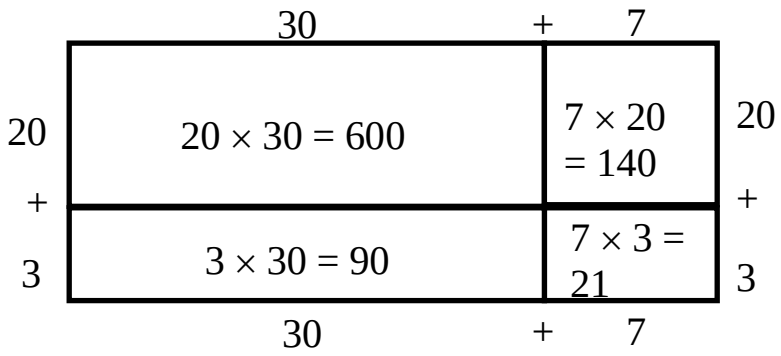
Name: _____ Date: _____

Process Guide: Area Model for Two-digit by Two-digit Multiplication Problems

1. **Explore**: What would you do to find the area of this rectangle? (*Area = length × width*)



2. Multiplying the length by the width may be difficult to do in one step. Try breaking the rectangle into smaller rectangle sections. This will make the area less difficult to find.



Explain: Explain how the smaller rectangle sections of the whole are used to solve the problem.

_____

_____

_____

3. **Understand**: Answer the following questions to better understand the process.

   a. How are the numbers 37 and 23 expressed? Why are they expressed that way?

   _____

   _____

   _____

   b. How can you use what you know about zeros in products to find the partial products in the smaller rectangles?

   _____

   _____

   _____

c. Does it matter in what order you multiply to get the partial products? _____

d. What do you do with all of the products in each rectangle section to get the total product?

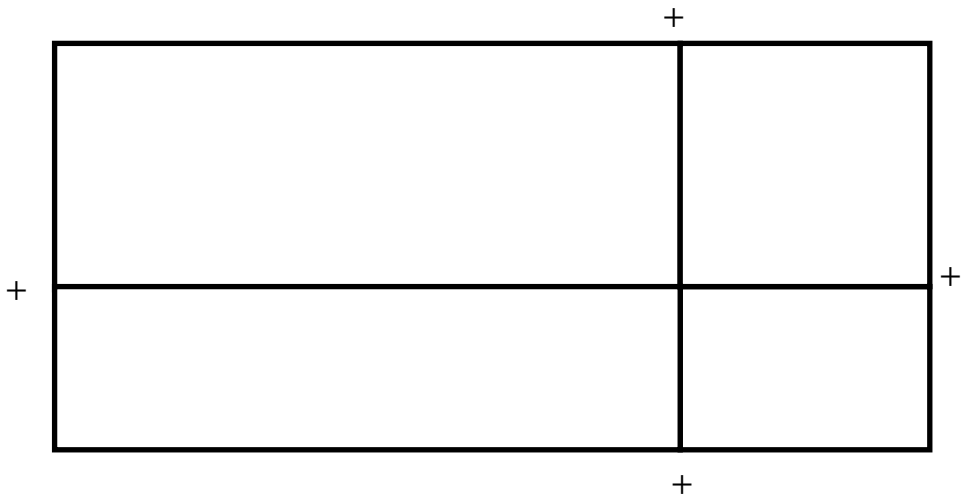
_____
_____
_____

e. Does it matter in what order you add those products? _____

f. **Conclusion**: How is the Area Model of multiplication used to solve the multiplication?

_____
_____
_____

4. **Apply**: Apply the Area Model of multiplication method to solve 49 × 34.



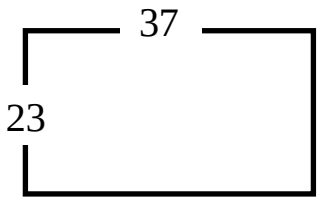
5. **Reason**: What is the largest product you can get when you multiply two 2-digit numbers? Explain your reasoning.

_____
_____
_____

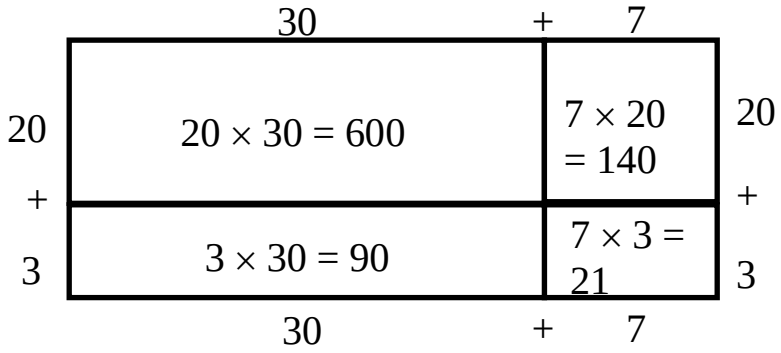
Name: _____ Date: _____

Process Guide: Area Model for Two-digit by Two-digit Multiplication Problems

1. **Explore**: What would you do to find the area of this rectangle? (*Area = length × width*)



2. Multiplying the length by the width may be difficult to do in one step. Try breaking the rectangle into smaller rectangle sections. This will make the area less difficult to find.



Explain: Explain how the smaller rectangle sections of the whole are used to solve the problem.
Possible answer: The area of each of the four little rectangles is found: these products are added to find the total area.

3. **Understand**: Answer the following questions to better understand the process.

   a. How are the numbers 37 and 23 expressed? Why are they expressed that way?
   They are expressed as tens and ones to make the multiplication easier.

   b. How can you use what you know about zeros in products to find the partial products in the smaller rectangles?
   Since 30 × 20 has 2 zeros, 20 × 7 has 1 zero, and 30 × 3 has 1 zero.

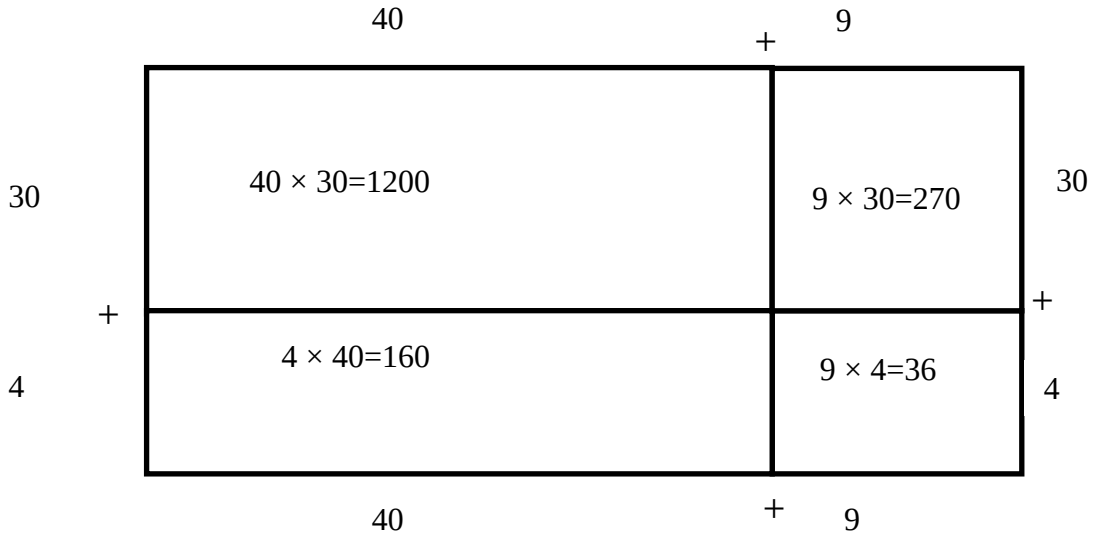
   c. Does it matter in what order we multiply to get the partial products? *No*

d. What do you do with all of the products in each rectangle section to get the total product?
We add all the products to get the total product.

e. Does it matter in what order you add the partial products? *No*

f. How is the area model of multiplication used to solve the multiplication?
The area of each of the 4 smaller rectangles is found. Then the 4 areas are added to find the total area.

4. **Apply**: Apply the area model of multiplication method to solve 49 × 34.



5. **Reason**: What is the largest product you can get when you multiply two 2-digit numbers? Explain your reasoning.
Possible answer: The largest product you can get when you multiply two 2-digit numbers is a 4-digit number. You can add 2 (represents the first 2 digit factor) + 2 (represents the other 2 digit factor) to find the amount or you can multiply the largest 2-digit number 99 by 99 and see that its product is 4 digit.

Name: _____ Date: _____

Oder of Operations Worksheet

Directions:
Perform the operations for each expression in correct order. Use the chart below to help.

Parentheses
Multiplication/Division (left to right)
Addition/Subtraction (left to right)

$8 + 16 \div 8$	$4 – (10 – 7)$	$(4 – 4) \div 3 + 1$
$4 \div 2 \times 5$	$1 \times 8 \div 4$	$60 \div (10 + 10)$

Name: _____ Date: _____

Oder of Operations Worksheet

Directions:
Perform the operations for each expression in correct order. Use the chart below to help.

Parentheses
Multiplication/Division (left to right)
Addition/Subtraction (left to right)

8 + 16 ÷ 8 *8 + 2* *10*	*4 – (10 – 7)* *4 – 3* *1*	(4 – 4) ÷ 3 + 1 0 ÷ 3 + 1 0 + 1 *1*
4 ÷ 2 × 5 *2* × 5 *10*	*1 × 8 ÷ 4* *8 ÷ 4* *2*	60 ÷ (10 + 10) 60 ÷ 20 3

Name: _____ Date: _____

Parentheses, Brackets, and Braces

Directions:
Perform the operations in correct order. Remember to start with the inside grouping symbol.

$$[10 - (5 + 1)] \times 3$$

$$2 \times [6 \div 3 - (5 - 4)] \div 2$$

$$3\{5 - [(6 + 4) \div 5]\}$$

$$9 \div \{4 - [(3 - 1) \div 2]\}$$

Name: _____ Date: _____

Parentheses, Brackets, and Braces

Directions: Perform the operations in correct order. Use the chart below to help.

$$[10 - (5 + 1)] \times 3$$
$$[10 - 6] \times 3$$
$$4 \times 3$$
$$12$$

$$2 \times [6 \div 3 - (5 - 4)] \div 2$$
$$2 \times [6 \div 3 - 1] \div 2$$
$$2 \times [2 - 1] \div 2$$
$$2 \times 1 \div 2$$
$$2 \div 2$$
$$1$$

$$3\{5 - [(6 + 4) \div 5]\}$$
$$3\{5 - [10 \div 5]\}$$
$$3\{5 - 2\}$$
$$3 \times 3$$
$$9$$

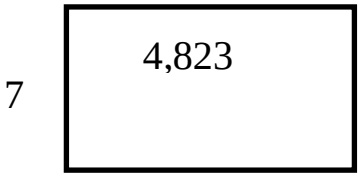
$$9 \div \{4 - [(3 - 1) \div 2]\}$$
$$9 \div \{4 - [2 \div 2]\}$$
$$9 \div \{4 - 1\}$$
$$9 \div \{3\}$$
$$3$$

Name: _____ Date: _____

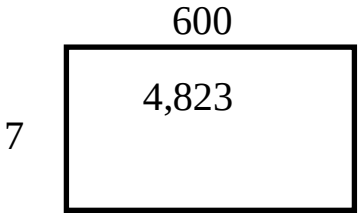
Process Guide: Rectangle Sections Method of Division Problems

Use the rectangle sections method of division to answer the following word problem: A passenger train travels the same distance every day. It travels **4,823** miles in **a week**. How far does the train travel each day?

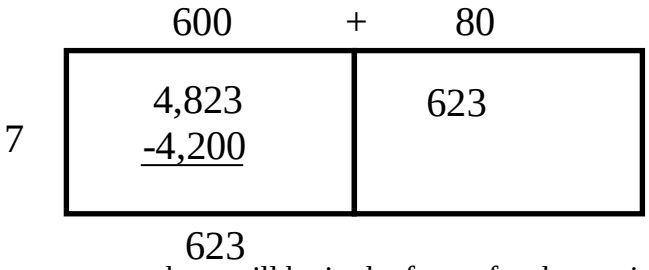
1. **Explore**: To find out how many miles are traveled in a day, 4,823 will be divided by 7. To discover the answer to this problem, think of 4,823 ÷ 7 as a rectangle with the area known along with the length of one side.



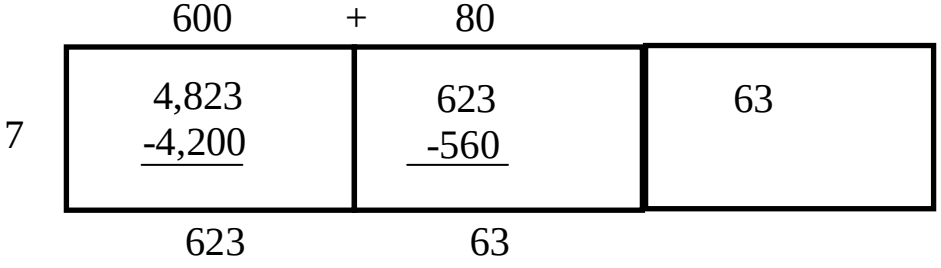
2. **Step-by-Step**: Figure the length of the unknown side first. Determine how many zeros there will be in the factor for the first section. _____
   7 × what digit is close to 48 without going over? _____



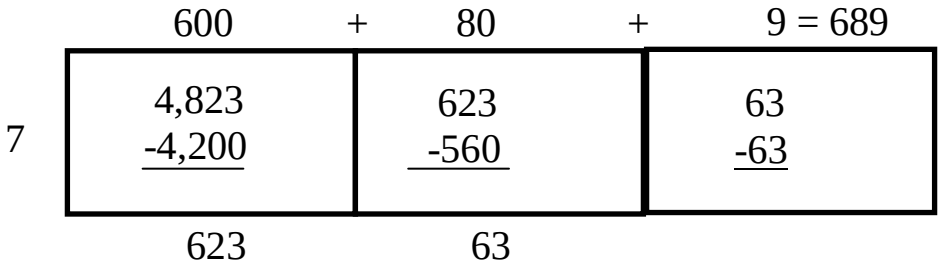
Multiply 7 × 600 and write the result under 4,823. Subtract to see how much is left over. _____ Build a new section with an area of 623.



Determine how many zeros there will be in the factor for the section. _____
7 × what digit is close to 62 without going over? _____ Subtract to see how much is left over. _____ Build a new section with an area of 63.



7 × what digit is 63? _____ Add the three new factors together. _____



The total length of the unknown side is 689 units; which is the answer.

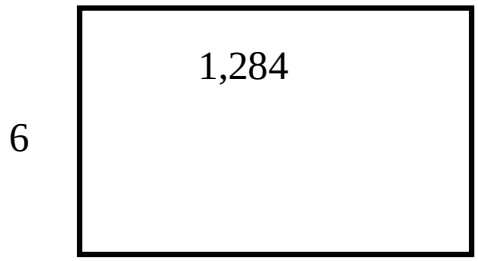
Explain: Explain how this method helps you see that you are finding an unknown factor when you divide.

_____

_____

_____

3. **Apply**: Apply the rectangle sections method of division to divide 1,284 by 6. The process has been started for you.



4. **Compare**: What is similar between this method and the digit-by-digit method you are used to? Will you know what the digit by digit method is?

_____

_____

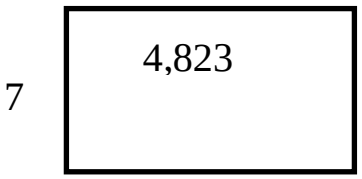
_____

Name: _____ Date: _____

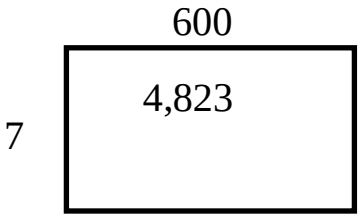
Process Guide: Rectangle Sections Method of Division Problems

Use the rectangle sections method of division to answer the following word problem: A passenger train travels the same distance every day. It travels **4,823** miles in **a week**. How far does the train travel each day?

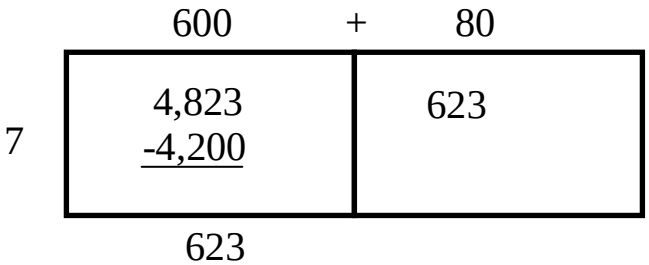
1. **Explore**: To find out how many miles are traveled in a day, 4,823 will be divided by 7. To discover the answer to this problem, think of 4,823 ÷ 7 as a rectangle with the area known along with the length of one side.



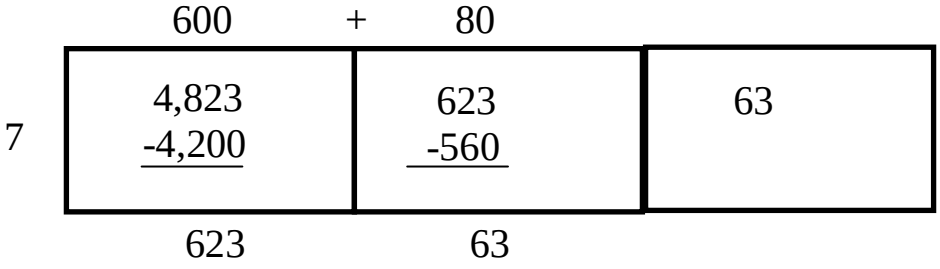
2. **Step-by-Step**: Figure the length of the unknown side first. Determine how many zeros there will be in the factor for the first section. *2 zeros*
   7 × what digit is close to 48 without going over? *6*



Multiply 7 × 600 and write the result under 4,823. Subtract to see how much is left over. *623*
Build a new section with an area of 623.



Determine how many zeros there will be in the factor for the section. *1 zero*
7 × what digit is close to 62 without going over? *8* Subtract to see how much is left over. *63*
Build a new section with an area of 63.



$7 \times$ what digit is 63? *9* Add the three new factors together. *689*

	600	+	80	+	9 = 689
7	4,823 -4,200		623 -560		63 -63
	623		63		

The total length of the unknown side is 689 units; which is the answer.

Explain: Explain how this method helps you see that you are finding an unknown factor when you divide.

Possible answer: This method helps to see that an unknown factor is being found because the model looks like a rectangle with the area and the length of 1 side known.

3. **Apply**: Apply the rectangle sections method of division to divide 1,284 by 6. The process has been started for you.

	200	+	10	+	4 = 214
6	1,284 -1,200 84		84 -60 24		24 -24 0

4. **Compare**: What is similar between this method and the method you are used to?

Answers may vary. Students may find similarities in dividing each digit by each place value or may notice the dividends in each section are found in order to find the quotient.

Name: _____ Date: _____

4,381	38	2,000
100	99	8,296
200	635	62
19	1	4

Using the numbers in the table, write 2 problems for each method. The problems in part A should use 2 of the numbers and the problems in part B should use 3 of the numbers. You can use any operations in the problems, but make sure that you use addition, subtraction, multiplication, and division at least once in the 6 problems.

1. I would use mental math to work these problems.

   A. _____ B. _____

2. I would use a calculator to work these problems.

   A. _____ B. _____

3. I would use paper and pencil to work these problems.

   A. _____ B. _____

Unit 2, Activity 15, Decimal Patterns Chart

Name: _____ Date: _____

Directions:
Calculate the answers to the problems in the chart using a calculator. Multiply each number shown by 0.1. Divide each number by 10.
Remember to look for patterns in the answers. The first row has been done for you.

Number:	**To multiply by:**	**Answer:**	**Number:**	**Divide by:**	**Answer:**
10	× 0.1	**1**	10	÷ 10	**1**
9	× 0.1		9	÷ 10	
8	× 0.1		8	÷ 10	
7	× 0.1		7	÷ 10	
6	× 0.1		6	÷ 10	
5	× 0.1		5	÷ 10	
4	× 0.1		4	÷ 10	
3	× 0.1		3	÷ 10	
2	× 0.1		2	÷ 10	
1	× 0.1		1	÷ 10	

Calculate the answers to the problems in the chart using a calculator. Multiply each number shown by 0.01. Divide each number by 100.
Remember to look for patterns in the answers. The first row has been done for you.

Number:	**To multiply by:**	**Answer:**	**Number:**	**Divide by:**	**Answer:**
10	× 0.01	**0.10**	10	÷ 100	**0.10**
9	× 0.01		9	÷ 100	
8	× 0.01		8	÷ 100	
7	× 0.01		7	÷ 100	
6	× 0.01		6	÷ 100	
5	× 0.01		5	÷ 100	
4	× 0.01		4	÷ 100	
3	× 0.01		3	÷ 100	
2	× 0.1		2	÷ 10	
1	× 0.1		1	÷ 10	

Unit 2, Activity 15, Decimal Patterns Chart with Answers

Name: _____ Date: _____

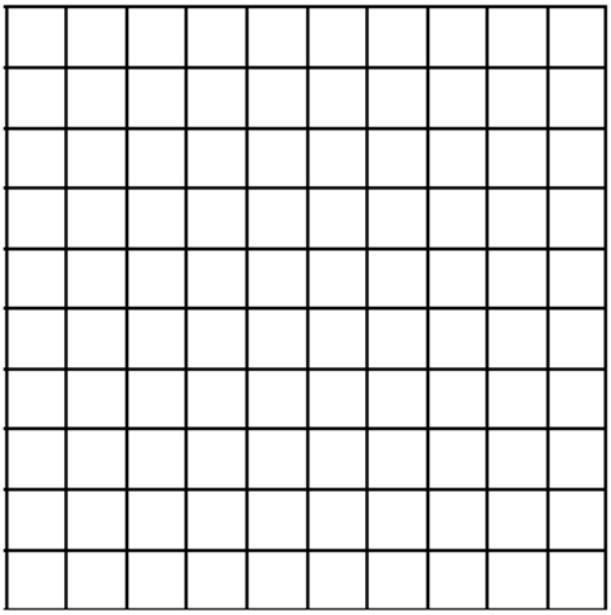
Directions:
Calculate the answers to the problems in the chart using a calculator. Multiply each number shown by 0.1. Divide each number by 10.
Remember to look for patterns in the answers. The first row has been done for you.

Number:	***To multiply by:***	***Answer:***	***Number:***	***Divide by:***	***Answer:***
10	*× 0.1*	*1*	*10*	*÷ 10*	*1*
9	*× 0.1*	*0.9*	*9*	*÷ 10*	*0.9*
8	*× 0.1*	*0.8*	*8*	*÷ 10*	*0.8*
7	*× 0.1*	*0.7*	*7*	*÷ 10*	*0.7*
6	*× 0.1*	*0.6*	*6*	*÷ 10*	*0.6*
5	*× 0.1*	*0.5*	*5*	*÷ 10*	*0.5*
4	*× 0.1*	*0.4*	*4*	*÷ 10*	*0.4*
3	*× 0.1*	*0.3*	*3*	*÷ 10*	*0.3*
2	*× 0.1*	*0.2*	*2*	*÷ 10*	*0.2*
1	*× 0.1*	*0.1*	*1*	*÷ 10*	*0.1*

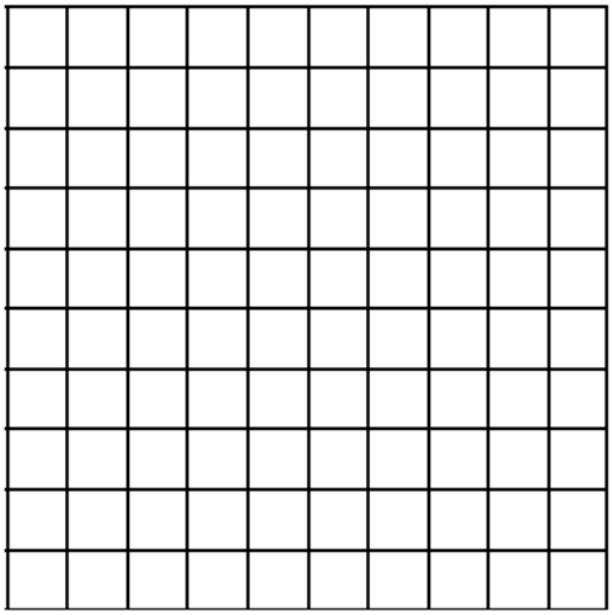
Calculate the answers to the problems in the chart using a calculator. Multiply each number shown by 0.01. Divide each number by 100.
Remember to look for patterns in the answers. The first row has been done for you.

Number:	***To multiply by:***	***Answer:***	***Number:***	***Divide by:***	***Answer:***
10	*× 0.01*	*0.10*	*10*	*÷ 100*	*0.10*
9	*× 0.01*	*0.09*	*9*	*÷ 100*	*0.09*
8	*× 0.01*	*0.08*	*8*	*÷ 100*	*0.08*
7	*× 0.01*	*0.07*	*7*	*÷ 100*	*0.07*
6	*× 0.01*	*0.06*	*6*	*÷ 100*	*0.06*
5	*× 0.01*	*0.05*	*5*	*÷ 100*	*0.05*
4	*× 0.01*	*0.04*	*4*	*÷ 100*	*0.04*
3	*× 0.01*	*0.03*	*3*	*÷ 100*	*0.03*
2	*× 0.01*	*0.02*	*2*	*÷ 100*	*0.02*
1	*× 0.01*	*0.01*	*1*	*÷ 100*	*0.01*

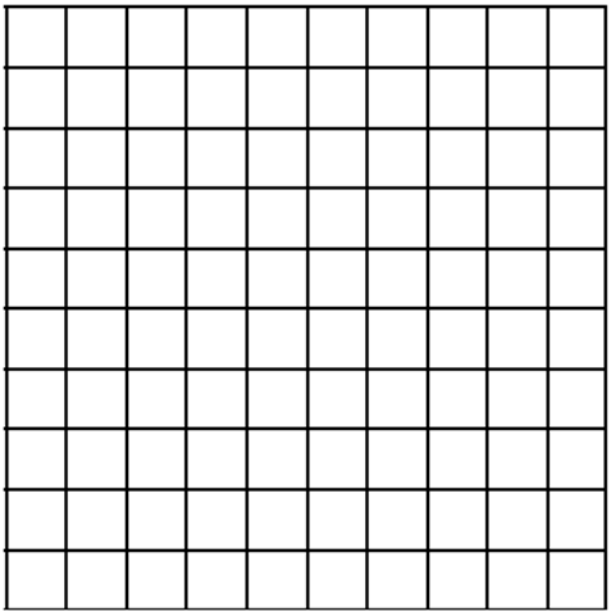
Name: _____ Date: _____



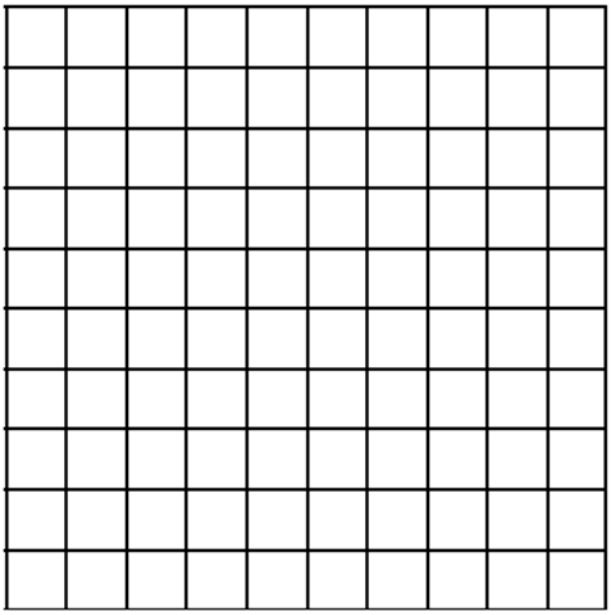
_____



_____



_____



_____

Name: _____ Date: _____

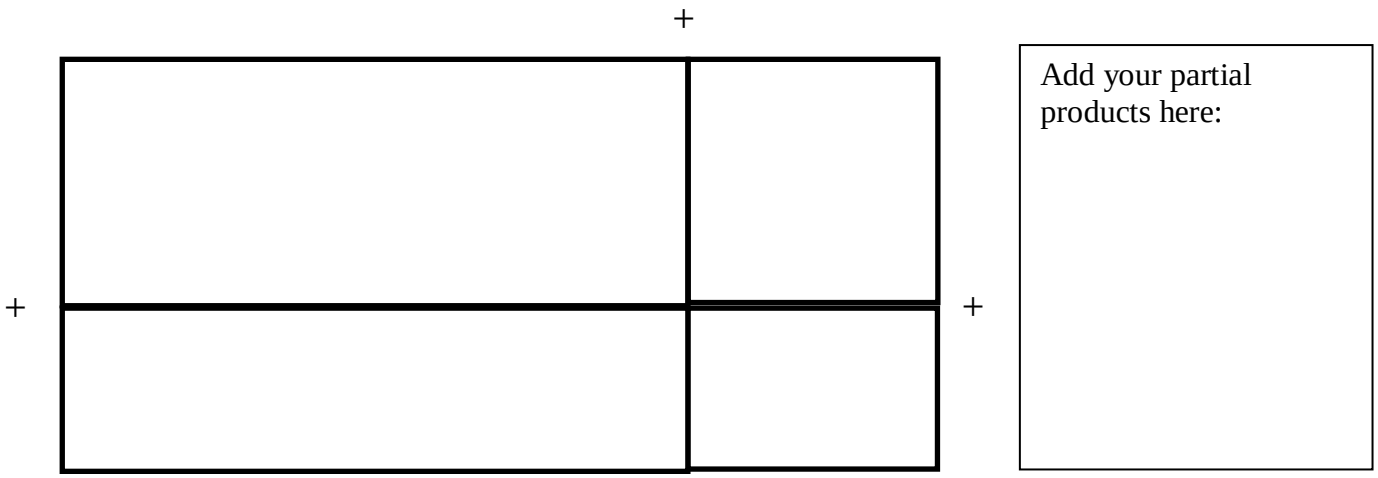
Moving Methods of Multiplication

Directions: Find the answers to the problems by finding the partial products. Remember to align the decimals as you would whole numbers before multiplying. When you multiply, work the problem without the decimals. After you add the partial products, count the total amount of numbers after the decimal point in the original expression, and move the decimal point that amount of places to the left in the answer.

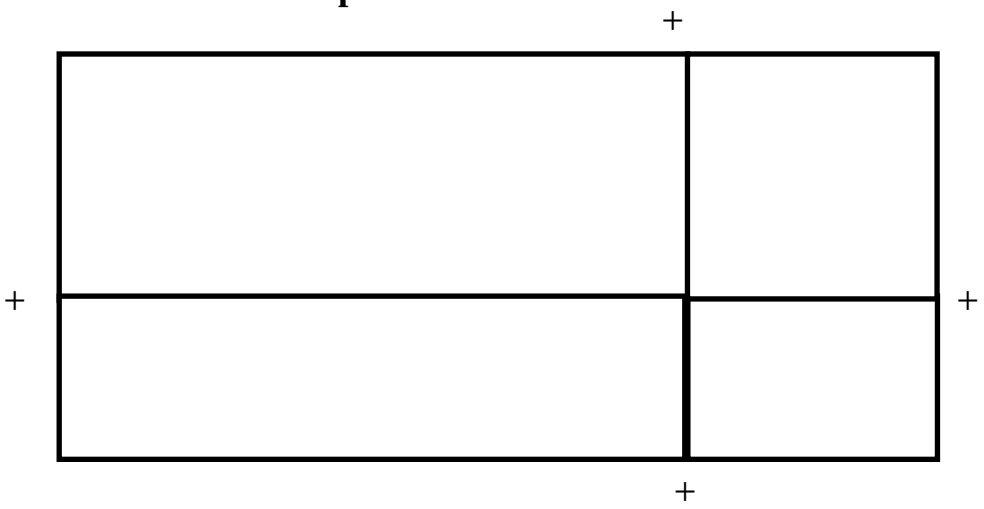
4.9 × 2.4	0.9 × 0.03	81 × 8.2

Directions: Find the answers to the problems by using the area model method. Remember to use the expanded form of the decimals to multiply. Add your partial products in the space provided.

Consider the expression: 8.5 × 0.62



6. **Consider the expression: 0.89 × 0.73**



Add your partial products here:

Unit 2, Activity 17, Moving Methods of Multiplication with Answers

Name: _____ Date: _____

Moving Methods of Multiplication

Directions: Find the answers to the problems by finding the partial products. Remember to align the decimals as you would whole numbers before multiplying. When you multiply, work the problem without the decimals. After you add the partial products, count the total amount of numbers after the decimal point in the original expression, and move the decimal point that amount of places to the left in the answer.

4.9 × 2.4

4.9
×2.4
36 4 × 9
160 4 × 40
180 20 × 9
800 20 × 40

0.26
×0.14
196
980
11.76

0.9 × 0.03

0.90
×0.03
0 0 × 3
270 3 × 90
0 0 × 0
0 0 × 90

0.90
×0.03
270
0
0.0270

81 × 8.2

81
×8.2
2 2 × 1
160 2 × 80
80 80 × 1
6400 80 × 80

81
×8.2
162
6480
664.2

Directions: Find the answers to the problems by using the area model method. Remember to use the expanded form of the decimals to multiply. Add your partial products in the space provided.

Consider the expression: 8.5 × 0.62

	8	*+ 0.5*	
0.60	*0.60 × 8= 4.8*	*0.60 × 0.5= 0.3*	*0.60*
+			+
0.02	*0.02 × 8=*	*0.02 × 0.5= 0.01*	*0.02*
	8	*+ 0.5*	

Add your partial products here:

4.80
0.30
0.16
+0.01
5.27

Consider the expression: 0.89 × 0.73

0.80 + *0.09*

0.70	*0.80 × 0.70= 0.56*	*0.70 × 0.09= 0.063*	*0.70*
+			+
0.03	*0.03 × 0.80= 0.024*	*0.03 × 0.09= 0.0027*	*0.03*

Add your partial products here:

0.5600
0.0240
0.0630
+0.0027
0.6497

Name: _____ Date: _____

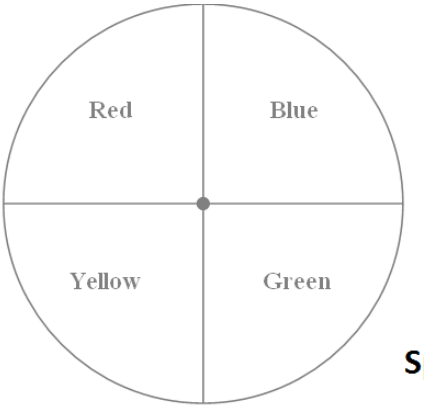
Word	+	√	–	Example	Definition
axis					
scale					
mean					
median					
mode					
range					
cluster					
gap					

Mark your understanding of each word. A "+" means understands well, a "√" means some understanding, and a "–" means do not know.

If your understanding changes as the class completes the graphing activities, mark another column. You might begin this unit with a "–" for the word gap, change to a "√" in the middle of the unit, and finally mark a "+" by the end of the activities. The goal is to have all plusses by the end of the unit.

Name: _____ Date: _____

Spinning Bar Graph Anticipation Guide Statements

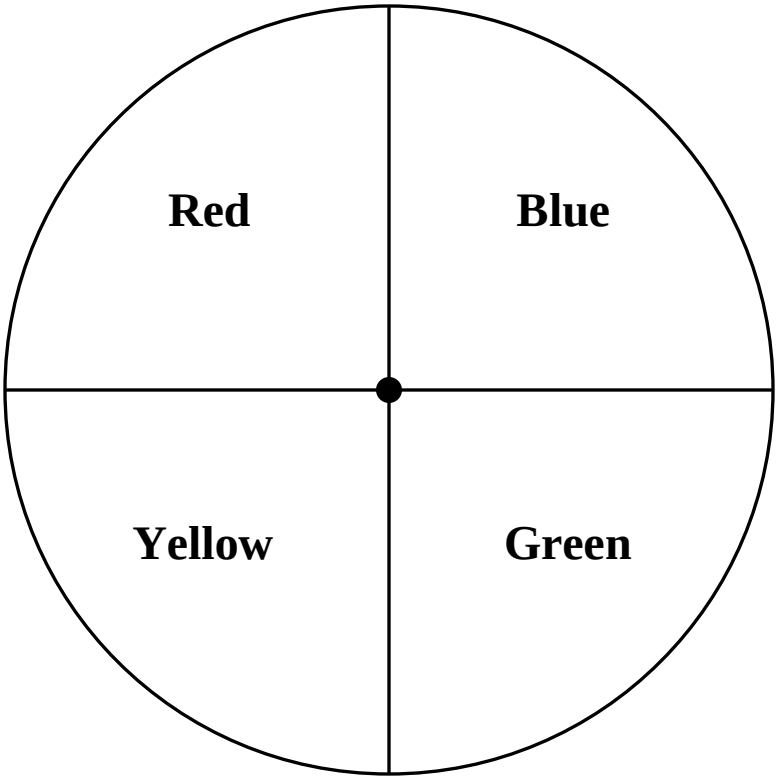


Spinner A

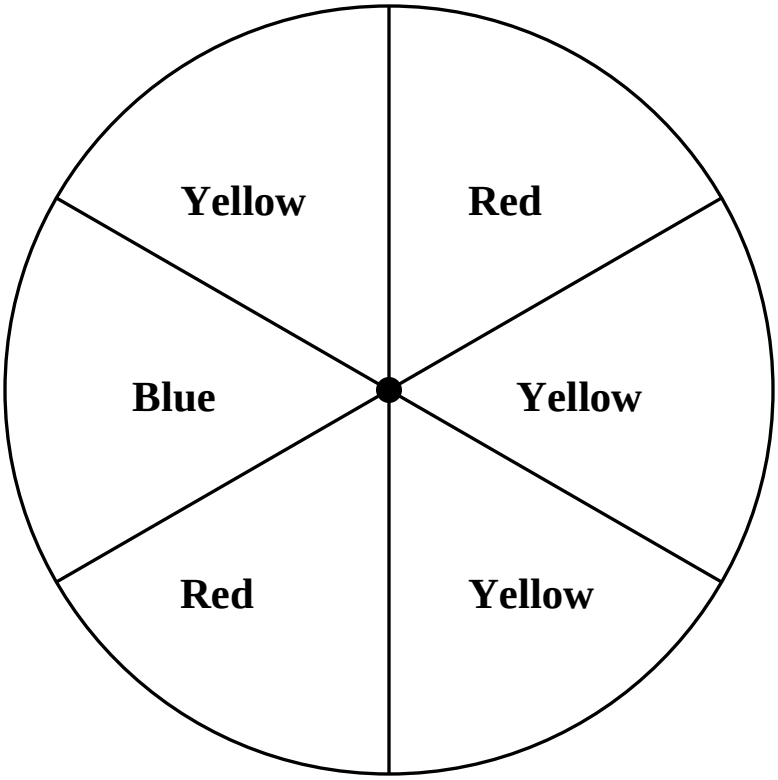
1. Look at Spinner A. Suppose you spin Spinner A 20 times. Red has the best chance of being spun.
   True_____ False_____
2. Green has a better chance of being spun over any other color.
   True_____ False_____
3. If the spinner is spun clockwise, blue has a better chance of being spun because it is the first color.
   True_____ False_____
4. Since red and green are diagonal to each other, they have an equal chance of being spun.
   True_____ False_____
5. Yellow is least likely to be spun.
   True_____ False_____
6. Each color is equally represented on the spinner.
   Yes_____ No_____
7. Each color has an equal chance of being spun.
   True_____ False_____

Name: _____ Date: _____

Spinner A



Spinner B



Unit 3, Activities 2, 3, and 5, Bar Graph

Name: _____ Date: _____

Name: _____ Date: _____

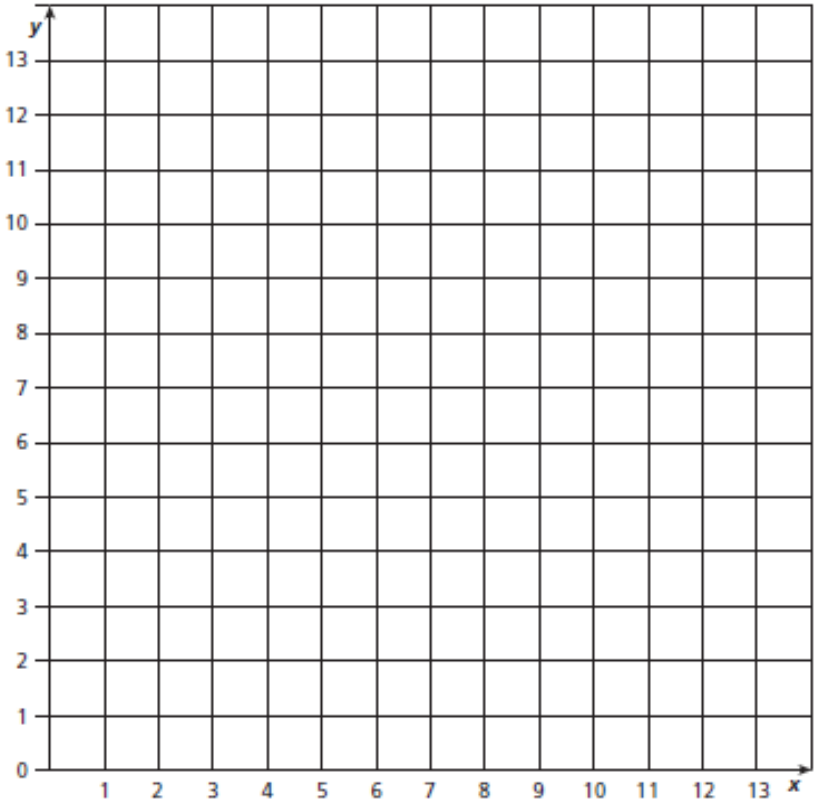
Features of the Graph/Plot

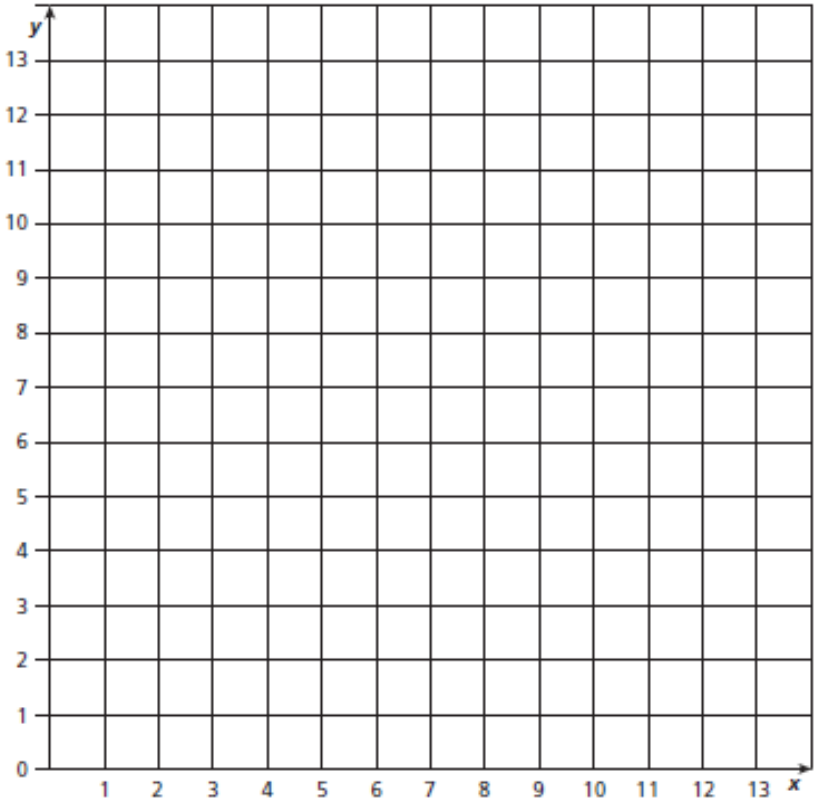
Types of Graphs/Plots						

Directions:
On this word grid the first column has "Types of graphs" listed as the column heading. List the types of graphs studied so far.
List features of the graph in the other columns. This may include "shows trends" "use bars," or other features.
In each box next to the type of graph, write A for always if the graph always has this feature, S for sometimes if the graph sometimes has this feature, or N for never if the graph never has this feature. Once completed, share your word grid with others and look for differences and similarities among graphs.

Unit 3, Activity 10, Coordinate Grid

Name: _____ Date: _____





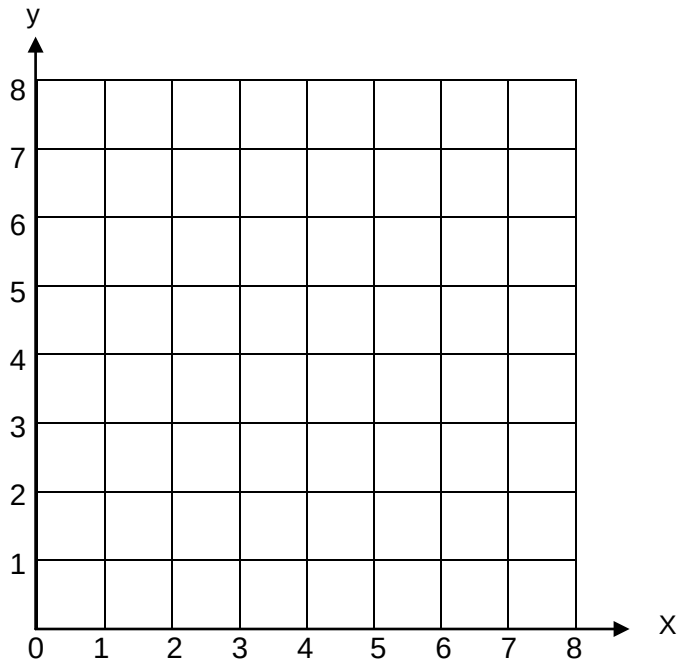
Title _____ Name _____	

Title Coordinate Graphs in the Frist Quadrant Name Joe Student Possible Answers	
axis	*looks like a number line* *x-axis is a horizontal line* *y-axis is a vertical line* *where the x-axis and y-axis intersect is called the origin*
ordered pairs	*pair of numbers that shows the position of a point on a coordinate grid*
coordinates	*the numbers in an ordered pair* *x-coordinate is the first number* *y-coordinate is the second number*

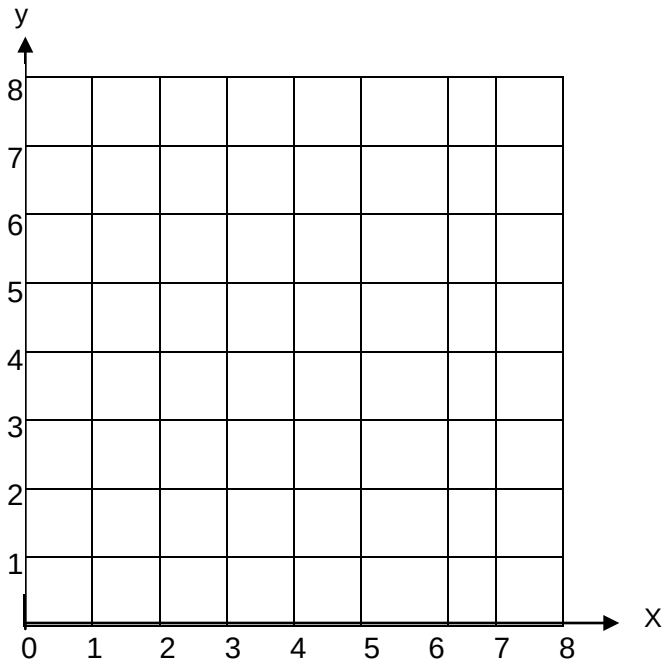
Unit 3, Activity 11, Plotting Pairs

Name: _____ Date: _____

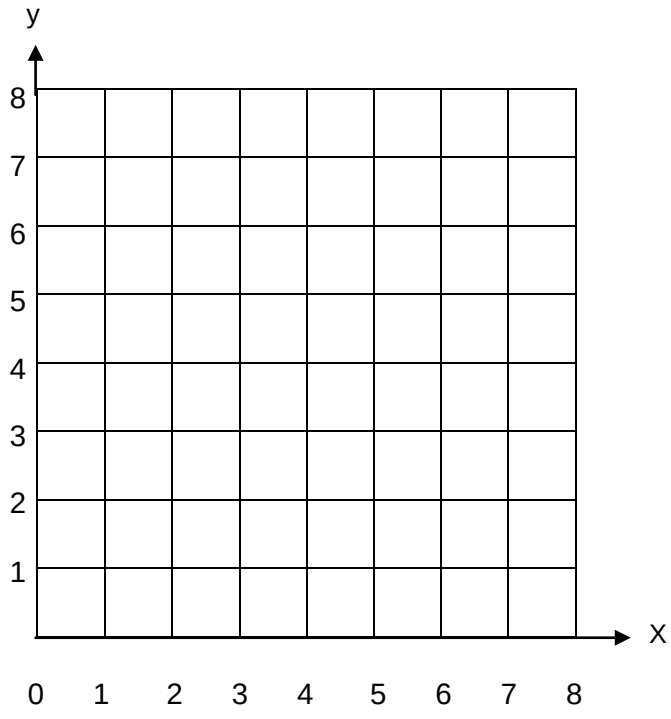
1.



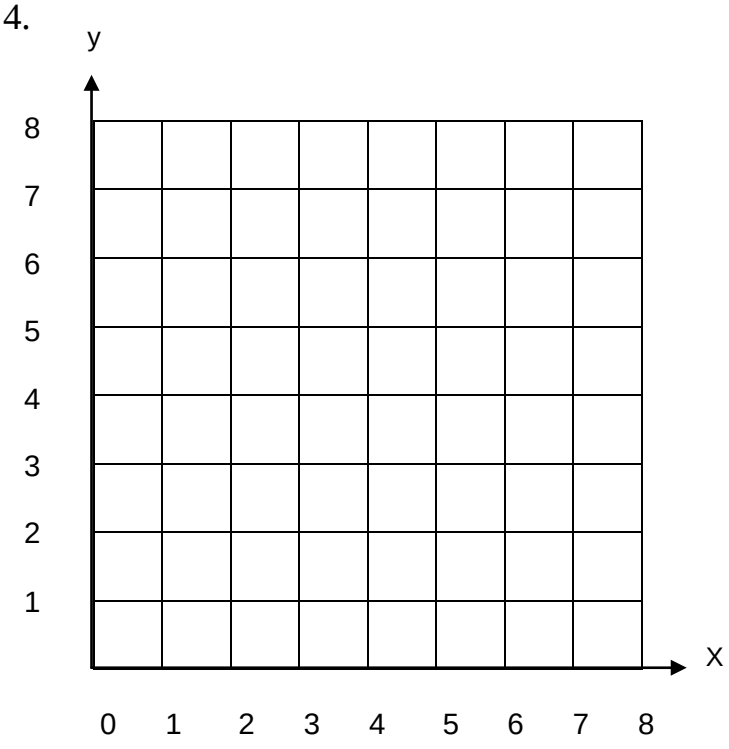
2.



3.



4.



Unit 4, Activity 2, What about Fractions?

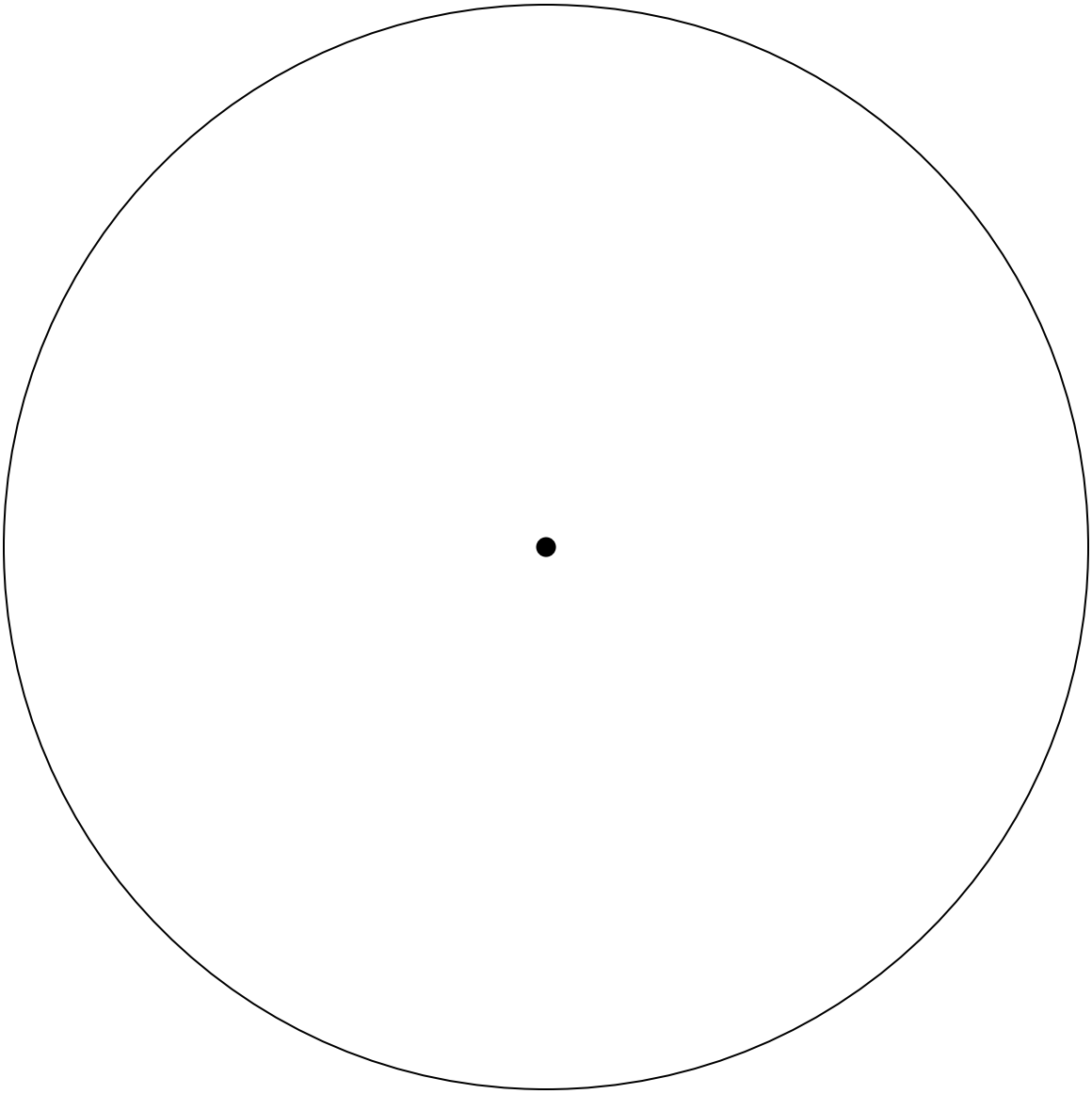
Name: _____ Date: _____

Word/Phrase	+	√	−	**Example**	**Definition**
numerator					
denominator					
mixed number					
improper fraction					
equivalent fractions					
simplest form					

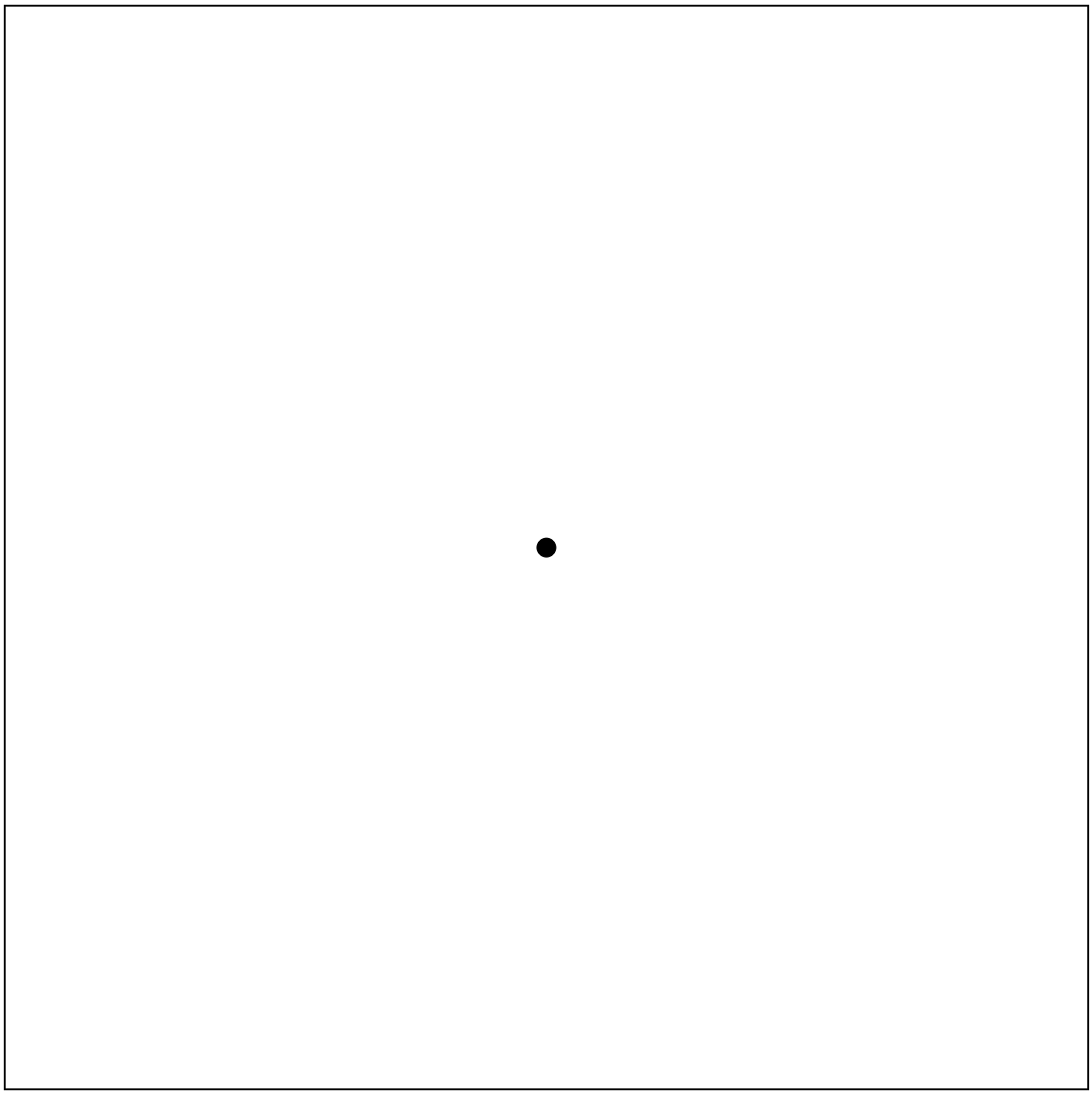
Mark your understanding of each word. A "+" means understands well, a "√" means some understanding, and a "–" means do not know.

If your understanding changes as the class completes the fraction activities, mark another column. You might begin this unit with a "–" for the phrase simplest form, mark a "√" in the middle of the unit, and then mark a "+" by the end of the activities. The goal is to have all plusses by the end of the unit.

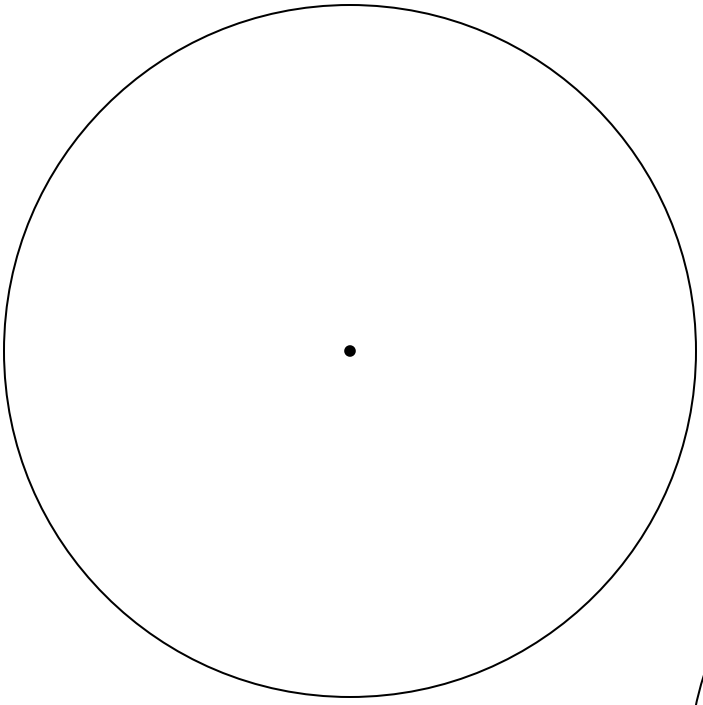
Name: _____ Date: _____

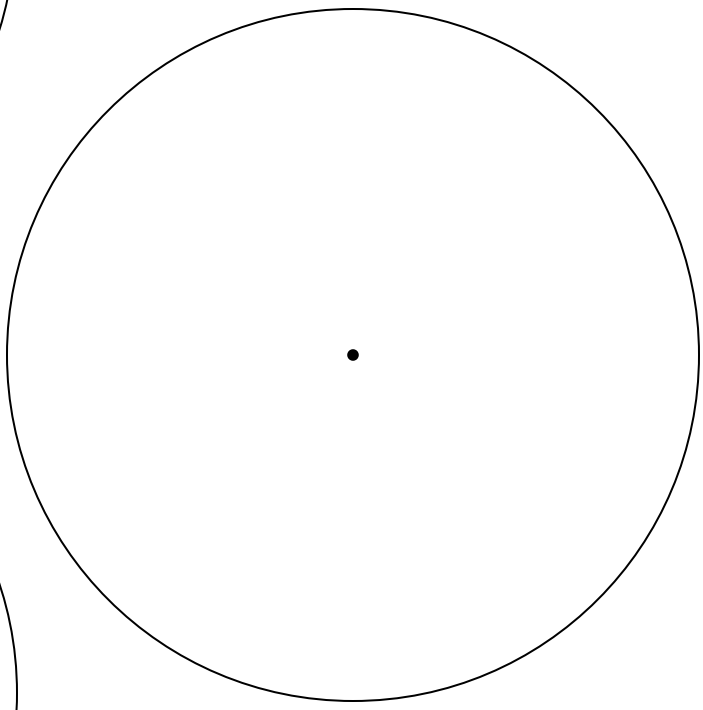


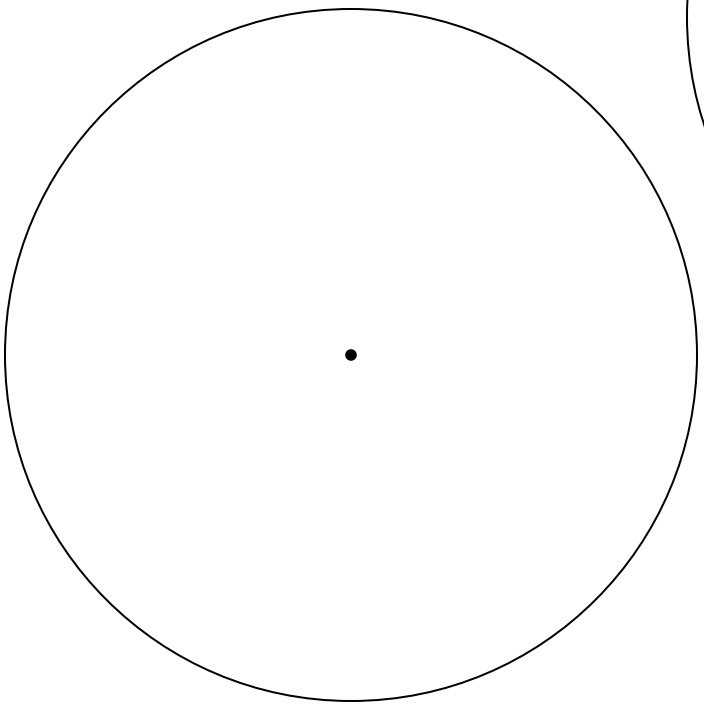
Name: _____ Date: _____



Name: _____ Date: _____







Name: _____ Date: _____

Lemonade
1 cup sugar
6 cups cold water
2 cups lemon juice

Hot Chocolate
2 one–ounce squares of sweetened chocolate
1 cup of water
4 cups of milk

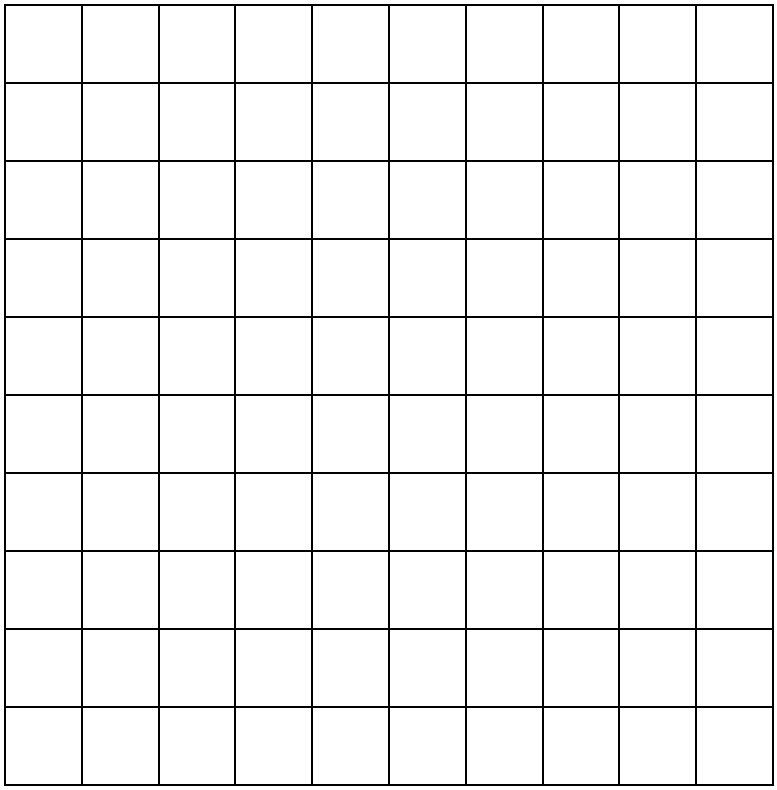
Burgers
1 pound of ground beef
2 tablespoons of green pepper
6 tablespoons of onions
3 tablespoons of catsup
1 teaspoon of salt
2 teaspoons of prepared mustard

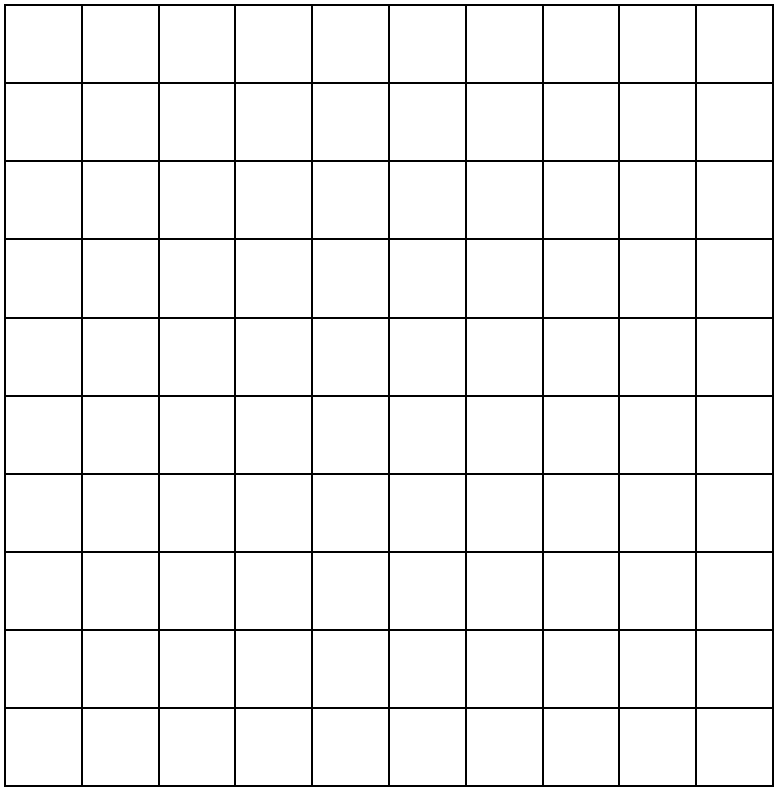
Grilled Cheese Sandwiches
2 slices of bread
1 slice of cheese
4 pats of butter

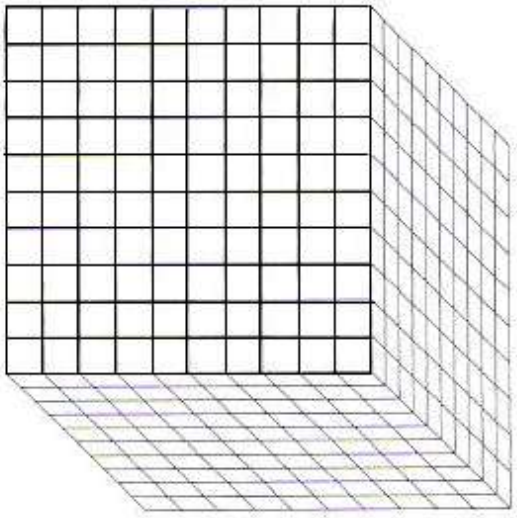
Caramel Snappers
144 pecan halves
36 caramels
1 cup of semisweet chocolate

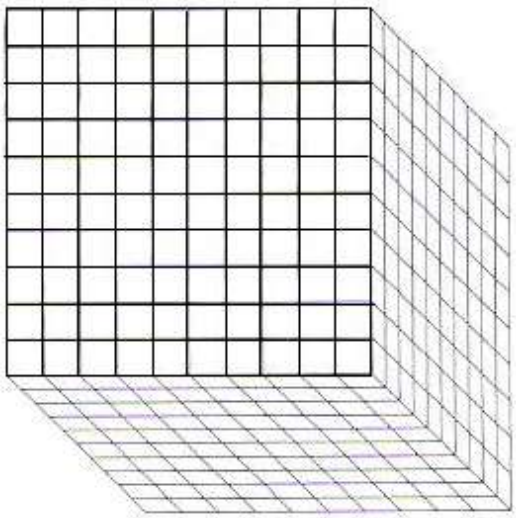
Easy Macaroons
16 ounces of shredded coconut
15 ounces of sweetened condensed milk
2 teaspoons of vanilla

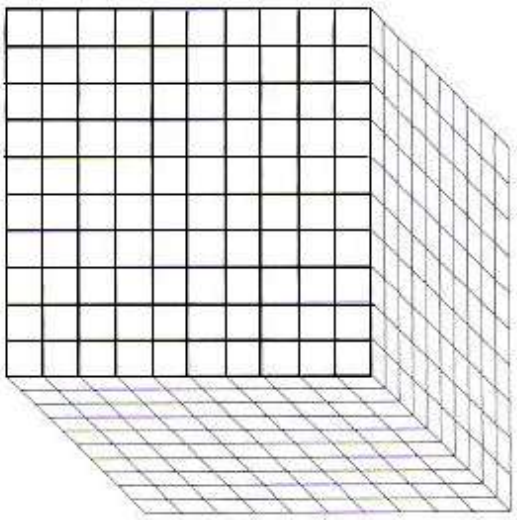
Name: _____ Date: _____

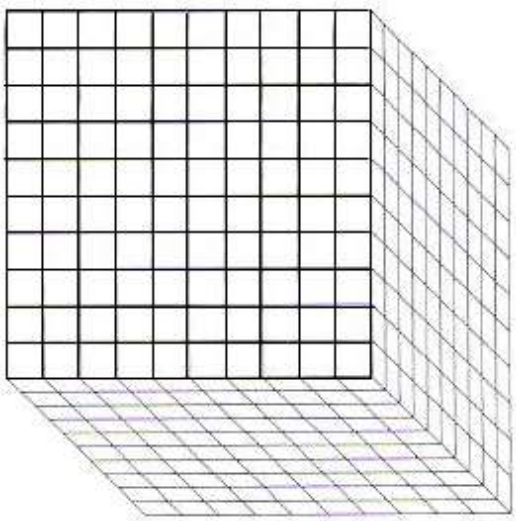








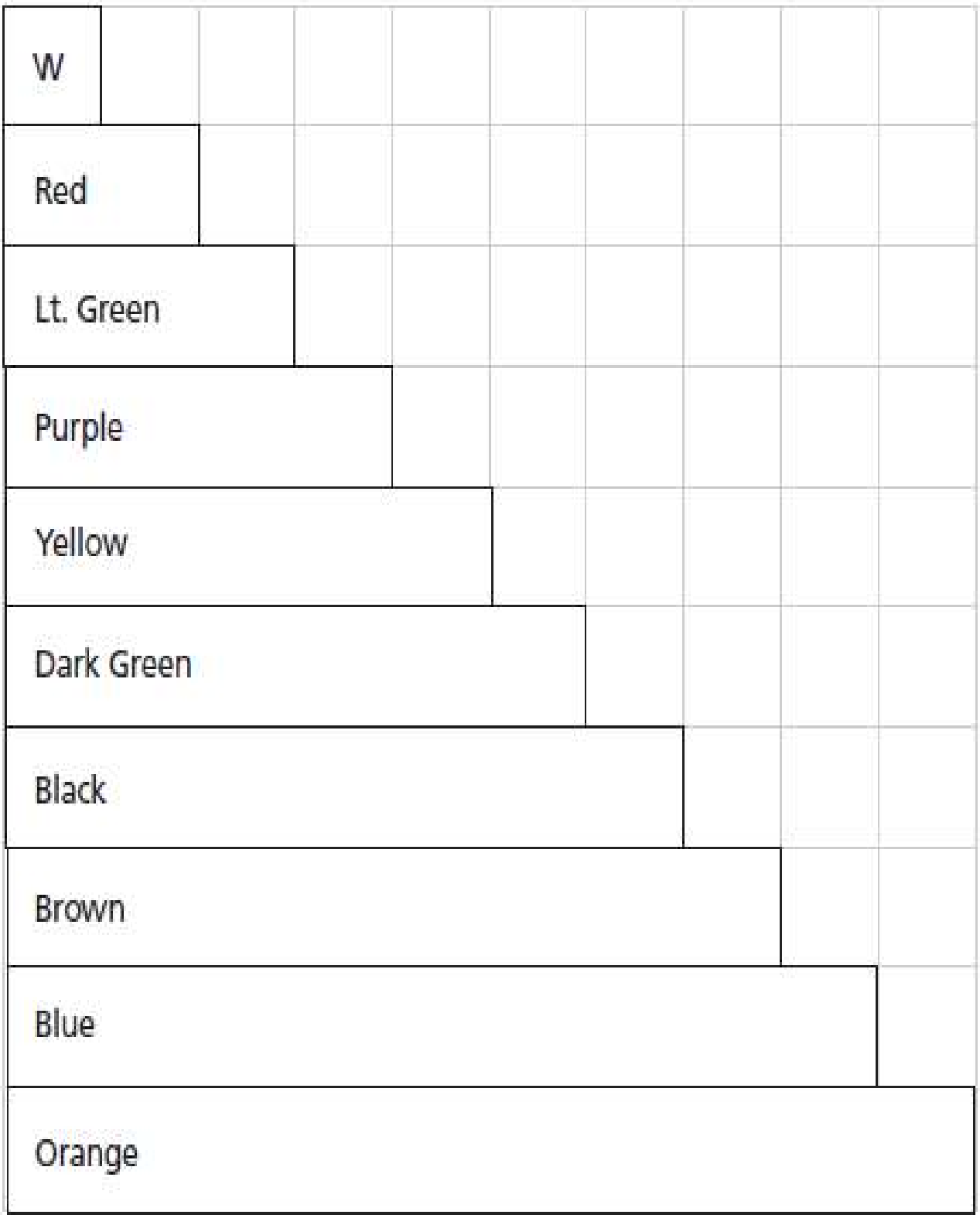




Unit 4, Activity 12, Place Value Chart with Decimals

Name: _____ Date: _____

Ones			•	**Decimals**		
hundreds	tens	ones	•	tenths	hundredths	thousandths


W
Red
Lt. Green
Purple
Yellow
Dark Green
Black
Brown
Blue
Orange

Name: _____ Date: _____

Process Guide: Exploring Fractions with Cuisenaire Rods

1. **Explore**: Arrange the rods in order of length. What do you notice about the "staircase" created?

2. **Examine**: Complete the following questions. Answer the "How do you know?" section in complete sentences.

   a. Begin with the orange rod. Which rod is ½ of the orange rod? _____
   How do you know?

   b. Which rod is 1/5 of the orange rod? _____
   How do you know?

   c. Which rod is 1/10 of the orange rod? _____
   How do you know?

   d. Now use the brown rod. Which rod is ½ of the brown rod? _____
   How do you know?

   e. Which rod is ¼ of the brown rod? _____
   How do you know?

f. Which rod is 1/8 of the brown rod? _____
How do you know?

3. **Reason and Compare:** Complete the following questions. Answer the "How do you know?" section in complete sentences.

a. Use the light green rod. If the light green rod is 1/3, which rod is the whole? _____
How do you know?

b. If the light green rod is 1/3, which rod is 2/3? _____
How do you know?

c. Use the white rod. If the white rod is 1/5, which rod is the whole? _____
How do you know?

d. If the white rod is 1/5, which rod is 2/5? _____
How do you know?

e. Use the dark green rod. If the dark green rod is 3/4, which rod is the whole? _____
How do you know?

f. If the dark green rod is 2/3, which rod is the whole? _____
How do you know?

Name: _____ Date: _____

Process Guide: Exploring Fractions with Cuisenaire Rods *(These answers are sample answers using the white rod as the basis for equivalency)*

1. **Explore**: Arrange the rods in order of length. What do you notice about the "staircase" created?
   When the rods are arranged in order of length each rod differs from the next by 1 white rod. (1 centimeter)

2. **Examine**: Complete the following questions. Answer the "How do you know?" section in complete sentences.

   a. Begin with the orange rod. Which rod is ½ of the orange rod? *Yellow*
      How do you know?
   The orange rod is equal to 10 white rods. The yellow is equal to 5 white rods. 5 is ½ of 10. Therefore, the yellow rod is ½ of the orange rod.

   b. Which rod is 1/5 of the orange rod? *Red*
      How do you know?
   The orange rod is equal to 10 white rods. The red rod is equal to 2 white rods. 2 is 1/5 of 10 Therefore, the red rod is 1/5 of the orange rod.

   c. Which rod is 1/10 of the orange rod? *White*
      How do you know?
   Ten white rods are equal to 1 orange rod. Therefore, the white rod is 1/10 of the orange rod.

   d. Now use the brown rod. Which rod is ½ of the brown rod? *purple/pink*
      How do you know?
   8 white rods equal 1 brown rod. 4 white rods equal 1 purple/pink rod. 4 is ½ of ; therefore, the purple/pink rod is ½ of the brown rod.

   e. Which rod is ¼ of the brown rod? *Red*
      How do you know?
   1 brown rod is equal to 8 white rods. 1 red rod is equal to 2 white rods. 2 is 1/4 of 8. Therefore, the red rod is 1/4 of the brown rod.

   f. Which rod is 1/8 of the brown rod? *White*
      How do you know?
   Eight white rods are equal to 1 brown rod. Therefore, 1 white rod is 1/8 of the brown rod.

3. **Reason and Compare:** Complete the following questions. Answer the "How do you know?" section in complete sentences.

    a. Use the light green rod. If the light green rod is 1/3 of the whole, which rod is the whole? *Blue*
    How do you know?
3 light green rods equal 1 blue rod.

    b. If the light green rod is 1/3 of the whole, which rod is 2/3? *Dark green*
    How do you know?
9 white rods would be the whole. 3 white rods are equal to 1 light green rod. 2 light green rods are equal to 1 dark green rod. 1 dark green rod is equal to 6 white rods. 6 is 2/3 of 9; therefore 1 dark green rod is equal to 2/3.

    c. Use the white rod. If the white rod is 1/5 of the whole, which rod is the whole? *Yellow*
    How do you know?
5 white rods are equal to 1 yellow rod.

    d. If the white rod is 1/5 of the whole, which rod is 2/5? *Red*
    How do you know?
5 white rods would be the whole. 1 red rod is equal to 2 white rods. 1 red rod is also equal to 2/5.

    e. Use the dark green rod. If the dark green rod is ¾ of the whole, which rod is the whole? *Brown*
    How do you know?
1 dark green rod is equal to 6 white rods. 6 is ¾ of 8. 8 white rods are equal to 1 brown rod.

    f. If the dark green rod is 2/3, which rod is the whole? *Blue*
    How do you know?
1 dark green rod is equal to 6 white rods. 6 is 2/3 of 9. 1 blue rod is equal to 9.

Unit 4, Activity 16, How Big is the Fraction?

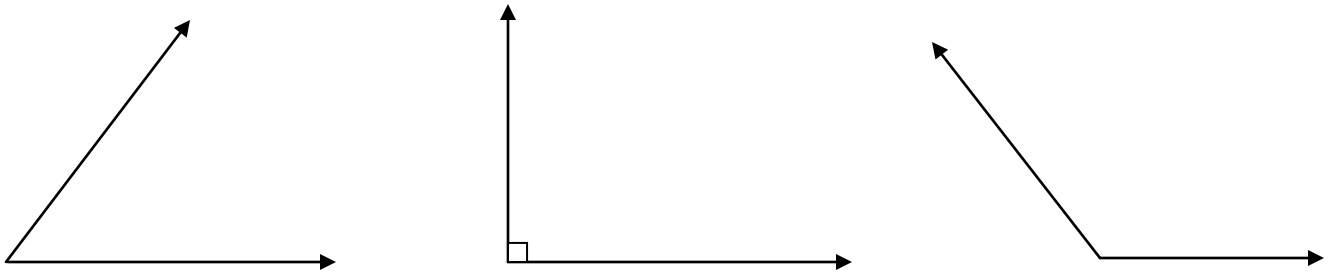
Name: _____ Date: _____

= 0	Between 0 and $\frac{1}{2}$	$=\frac{1}{2}$	Between $\frac{1}{2}$ and 1	= 1	Between 1 and 2

Unit 5, Activities 3 and 4, Measuring Angles

Name: _____ Date: _____

A. B. C.



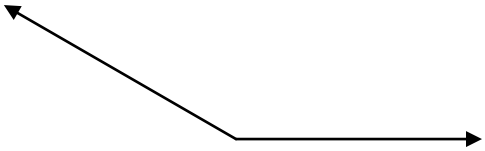
acute right obtuse

Use your protractor to measure the following angles. Tell what type of angle each one is.

1.

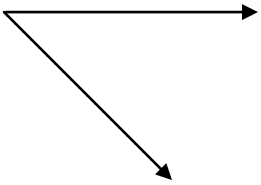
Ans. _____

2.



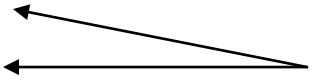
Ans. _____

3.



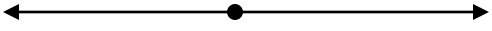
Ans. _____

4.



Ans. _____

5.



Ans. _____

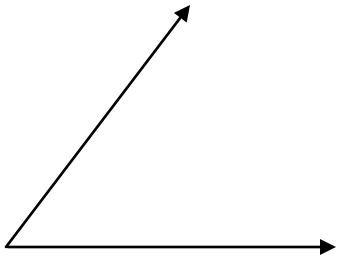
6.

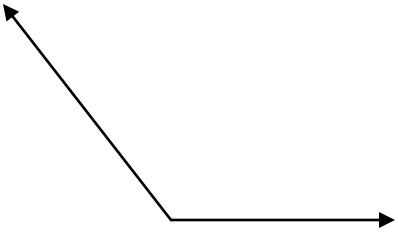
Ans. _____

Unit 5, Activities 3 and 4, Measuring Angles with Answers

Name: _____ Date: _____

A. B. C.





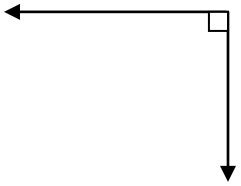
acute
53°

right
90°

obtuse
128°

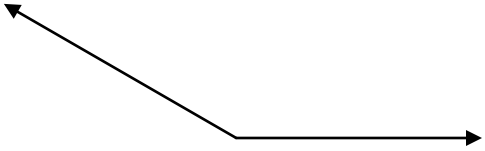
Use your protractor to measure the following angles. Tell what type of angle each one is.

1.



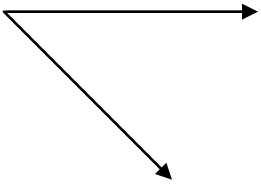
Ans. 90°, right angle

2.



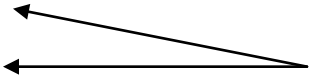
Ans. 150°, obtuse angle

3.



Ans. 46°, acute angle

4.



Ans. 11°, acute angle

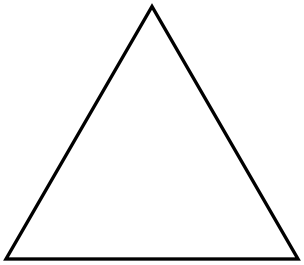
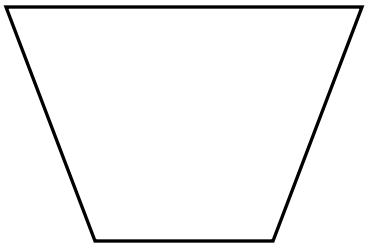
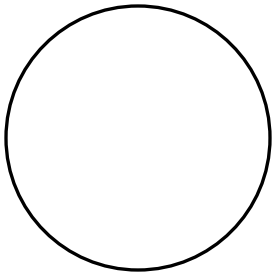
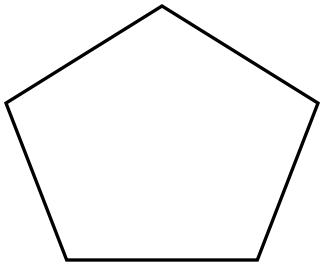
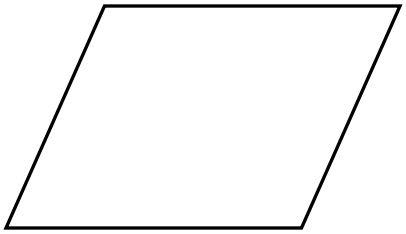
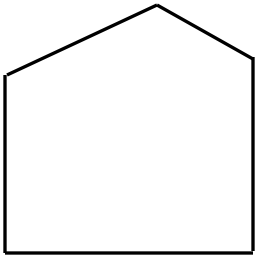
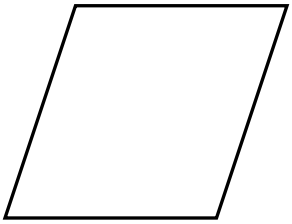
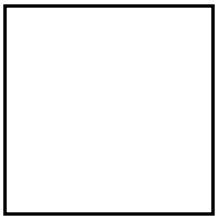
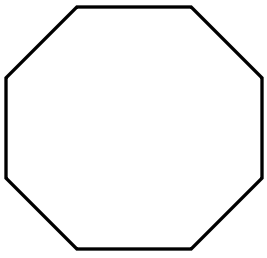
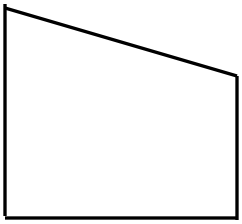
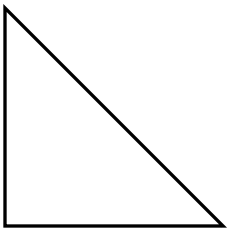
5.

Ans. 180°, straight angle

6.

Ans. 135°, obtuse angle

Name: _____ Date: _____

A. 	B. 	C. 
D. 	E. 	F. 
G. 	H. 	I. 
J. 	K. 	L. 

Name: _____ Date: _____

Polygons Anticipation Guide Statements

1. All shapes can be classified as polygons.
   Yes_____ No_____

2. Straight sides classify a shape as a polygon.
   True_____ False_____

3. A quadrilateral is a polygon.
   True_____ False_____

4. All sides of a quadrilateral must be parallel in order for the shape to be classified as a quadrilateral.
   True_____ False_____

5. A trapezoid is a quadrilateral.
   True_____ False_____

6. A trapezoid has only one set of parallel sides.
   Yes_____ No_____

7. A quadrilateral always has only one set of parallel sides.
   Yes_____ No_____

8. Triangles can be trapezoids.
   Yes_____ No_____

9. The sides of a triangle will always meet.
   Yes_____ No_____

10. A quadrilateral is always a parallelogram.
    Yes_____ No_____

11. A rectangle is both a quadrilateral and a parallelogram.
    Yes_____ No_____

12. A square is a rectangle.
    Yes_____ No_____

13. A square has many names that help classify its shape.
    True_____ False_____

Name: _____ Date: _____

Polygons Anticipation Guide Statements

14. All shapes can be classified as polygons.
    Yes_____ No X

15. Straight sides classify a shape as a polygon.
    True X False_____

16. A quadrilateral is a polygon.
    True X False_____

17. All sides of a quadrilateral must be parallel in order for the shape to be classified as a quadrilateral.
    True_____ False X

18. A trapezoid is a quadrilateral.
    True X False_____

19. A trapezoid has only one set of parallel sides.
    Yes X No_____

20. A quadrilateral always has only one set of parallel sides.
    Yes_____ No X

21. Triangles can be trapezoids.
    Yes_____ No X

22. The sides of a triangle will always meet.
    Yes X No_____

23. A quadrilateral is always a parallelogram.
    Yes_____ No X

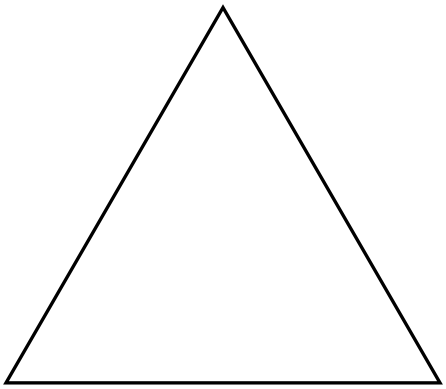
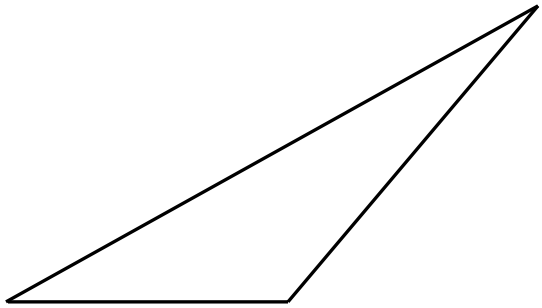
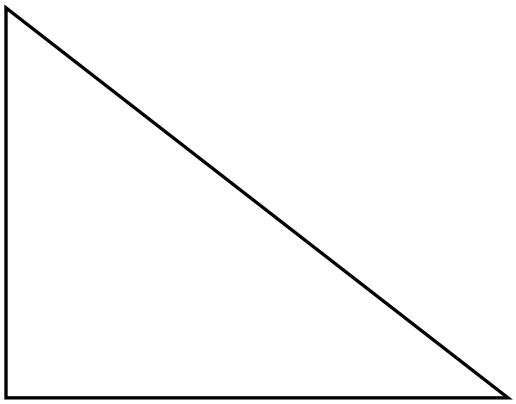
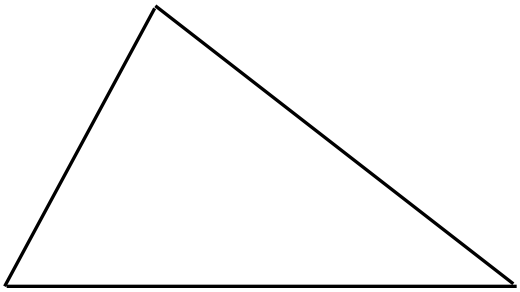
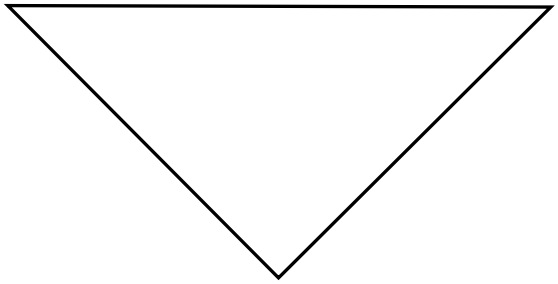
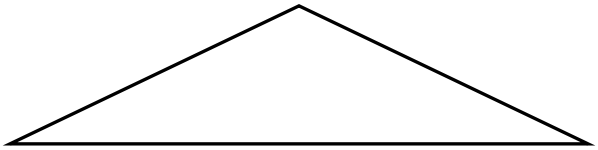
24. A rectangle is both a quadrilateral and a parallelogram.
    Yes X No_____

25. A square is a rectangle.
    Yes X No_____

26. A square has many names that help classify its shape.
    True X False_____

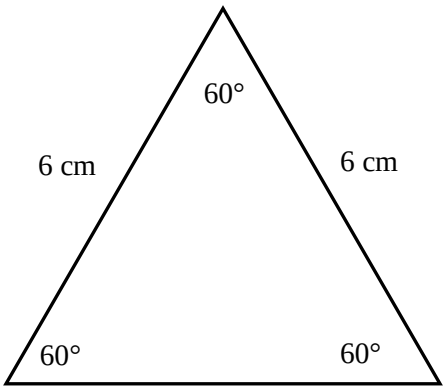
Unit 5, Activity 8, What Kind of Triangle?

Name: _____ Date: _____

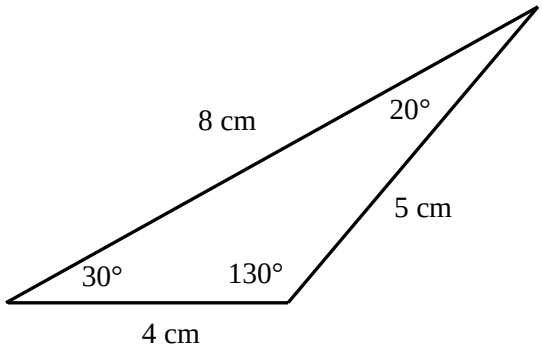
A. 	B. 
C. 	D. 
E. 	F. 

Name: _____ Date: _____

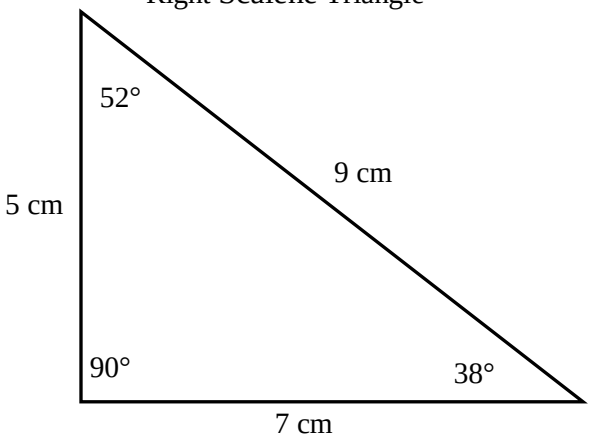
A. Equilateral Triangle



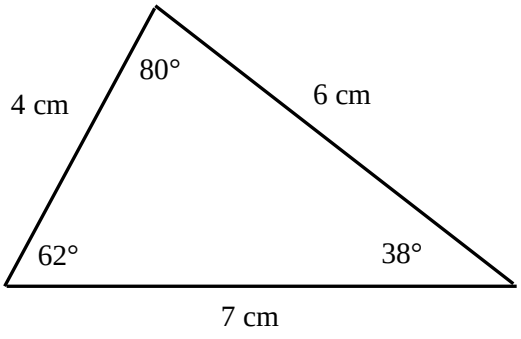
B. Obtuse Scalene Triangle



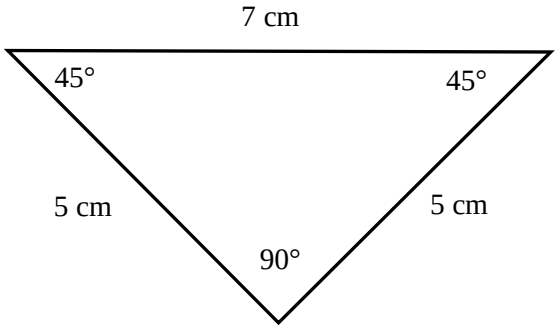
C. Right Scalene Triangle



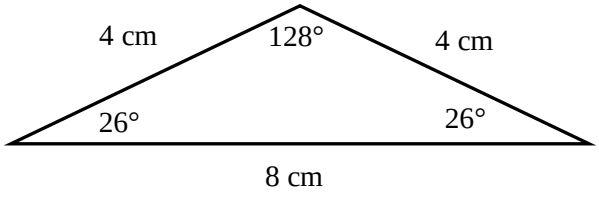
D. Acute Scalene Triangle



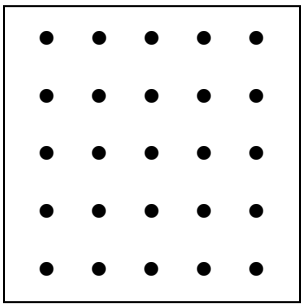
E. Right Isosceles Triangle

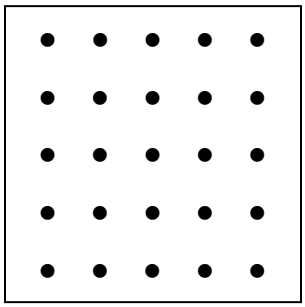


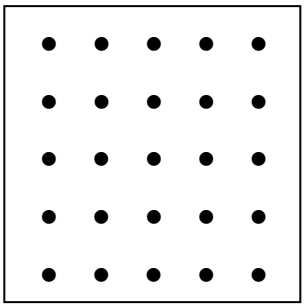
F. Obtuse Isosceles Triangle

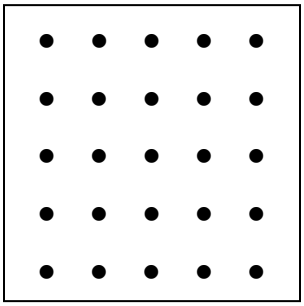


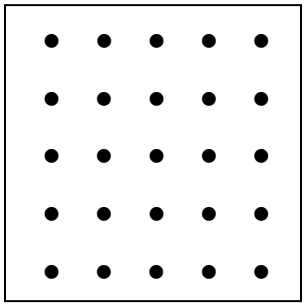
Name: _____ Date: _____

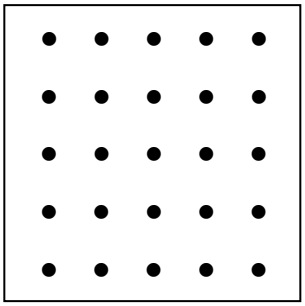
1. 

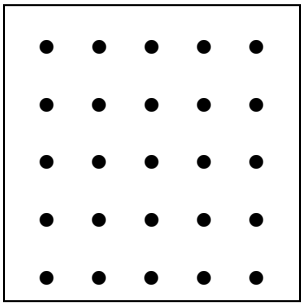
2. 

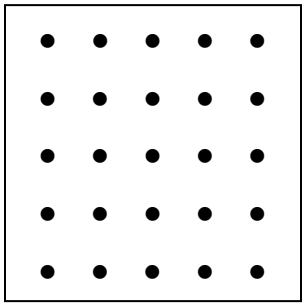
3. 

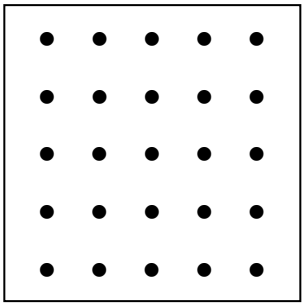
4. 

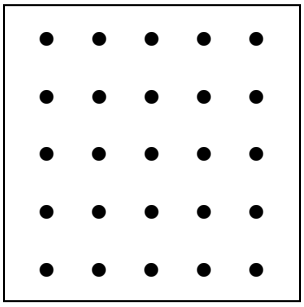
5. 

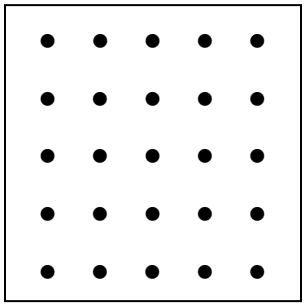
6. 

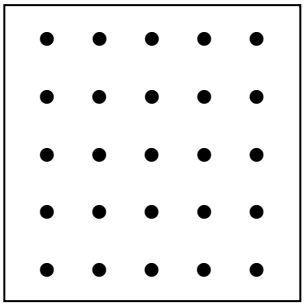
7. 

8. 

9. 

10. 

11. 

12. 

Name: _____ Date: _____

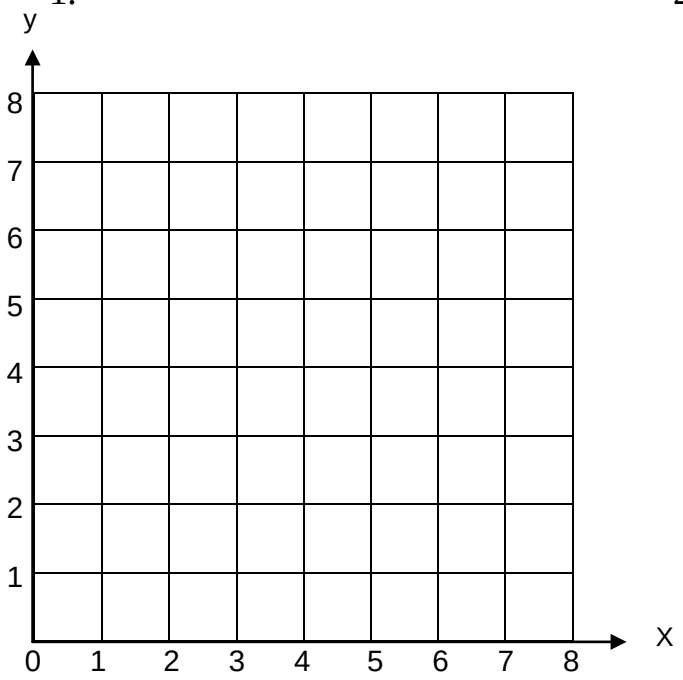
Properties

Figure					

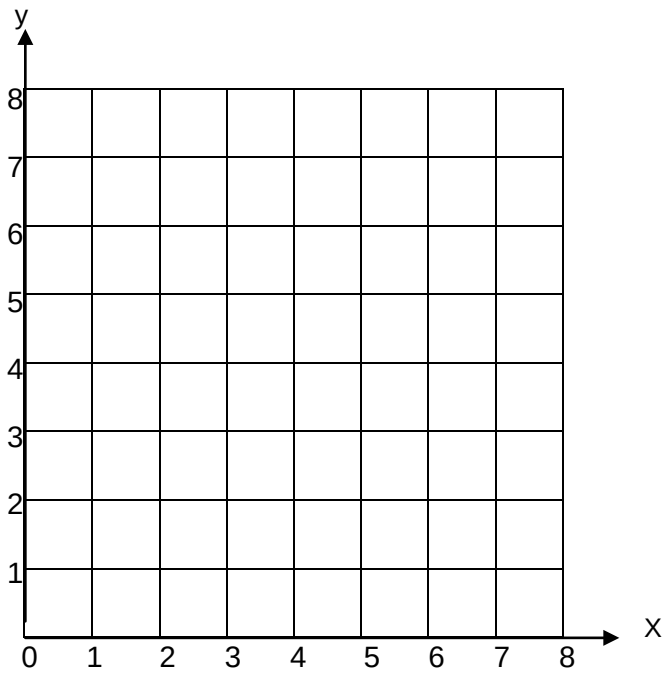
Directions:
On this *word grid* the first column has "figure" listed as the column heading. List the types of figures studied so far.
Think of properties of the geometric figures. This may include "has a right angle," "has only three sides," or other features.
In each box next to the type of graph, write A for always if the figure always has this feature, S for sometimes if the figure sometimes has this feature, or N for never if the figure never has this feature. Once completed, share your *word grid* with others and look for differences and similarities among geometric figures.

Name: _____ Date: _____

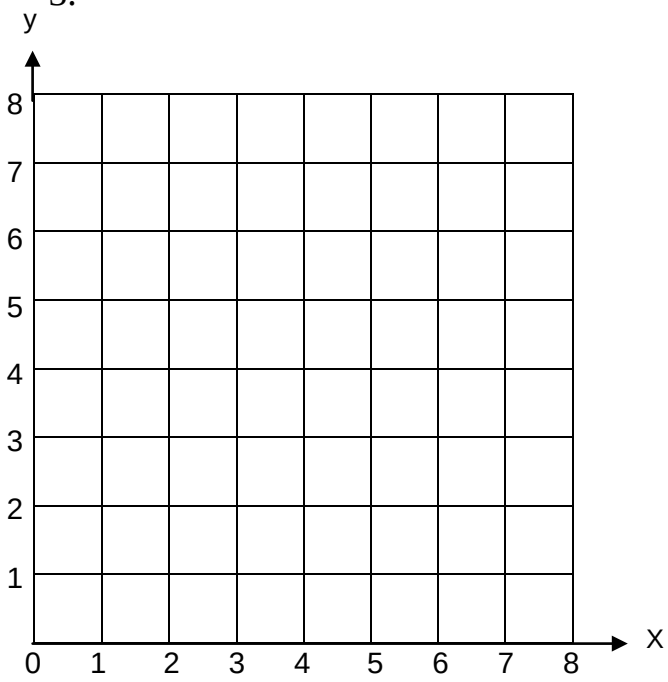
1.



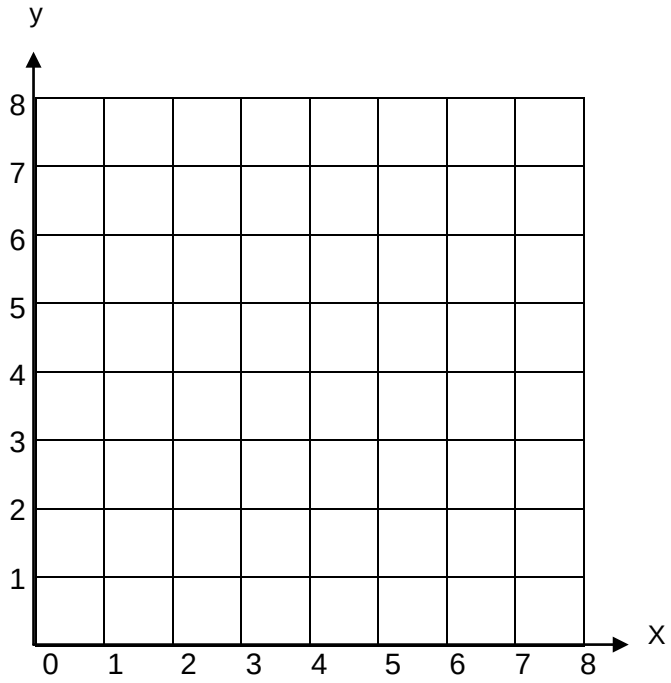
2.



3.

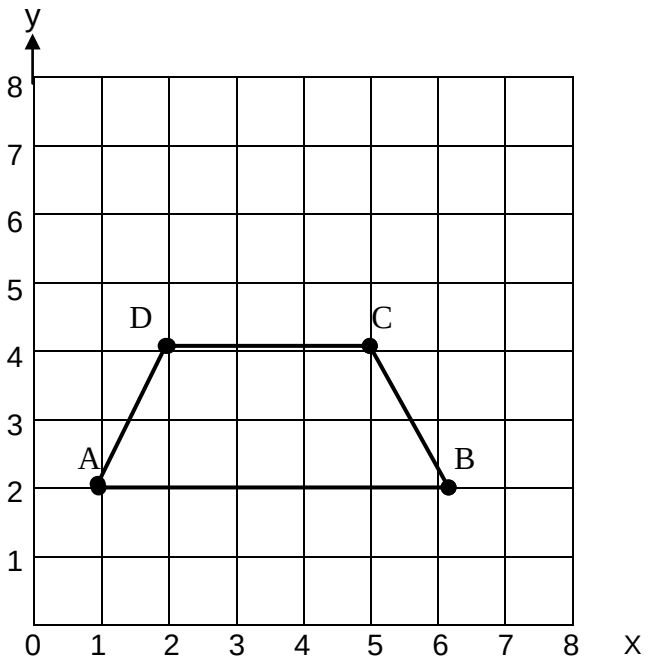


4.

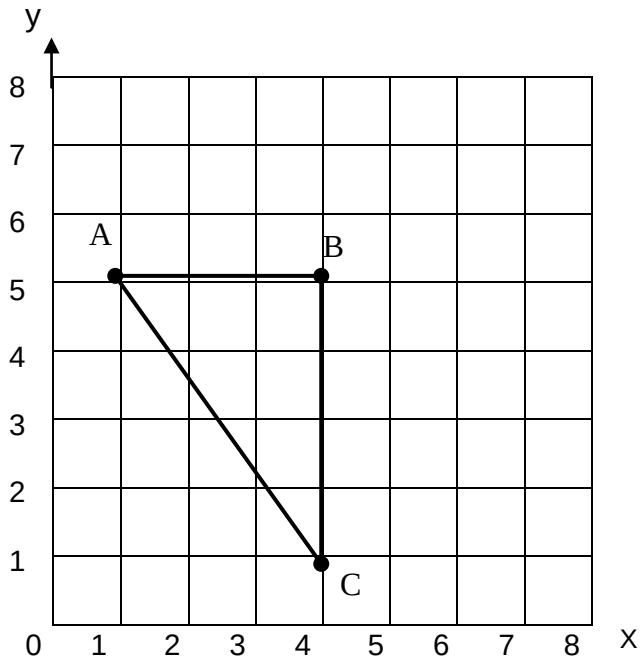


Name: _____ Date: _____

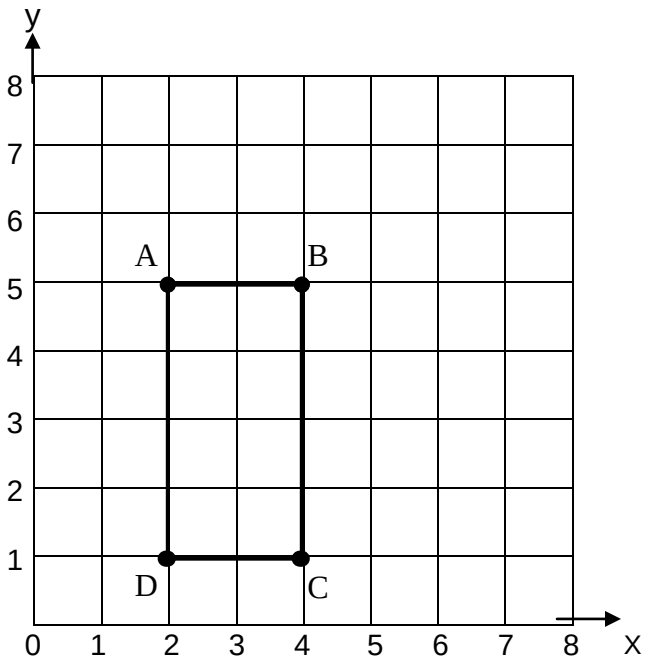
1.



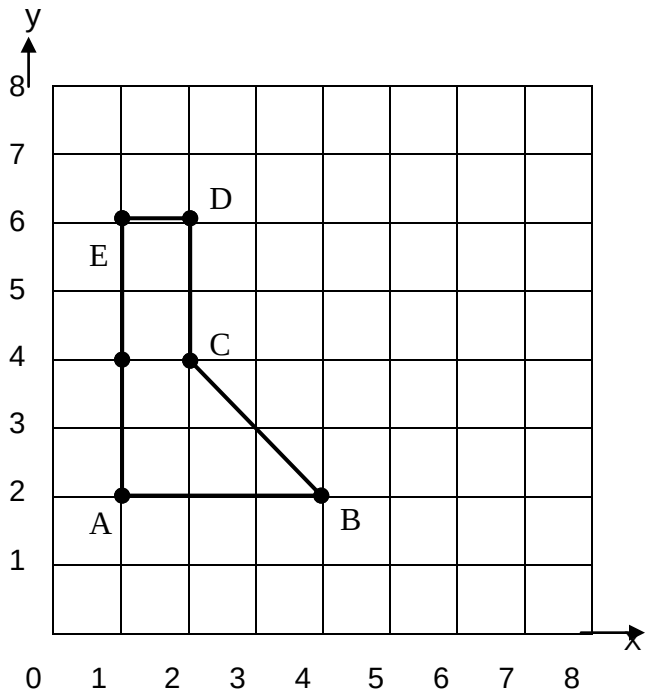
2.



3.



4.



Name: _____ Date: _____

1.

Angle Measure _____

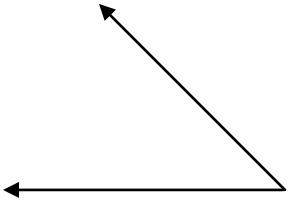
Type of Angle _____

2.

Angle Measure _____

Type of Angle _____

3.



Angle Measure _____

Type of Angle _____

4.

Angle Measure _____

Type of Angle _____

Name: _____ Date: _____

1.

Angle Measure 134°

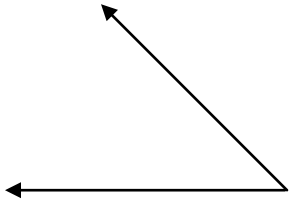
Type of Angle obtuse

2.

Angle Measure 90°

Type of Angle right

3.



Angle Measure 45°

Type of Angle acute

4.

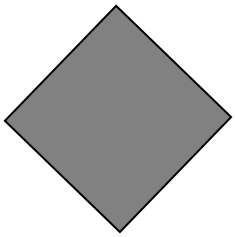
Angle Measure 180°

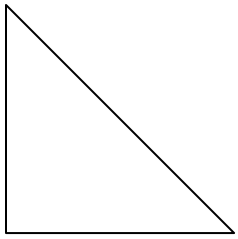
Type of Angle straight

Unit 5, Activity 6, Specific Assessment, Which Shape Does Not Belong?

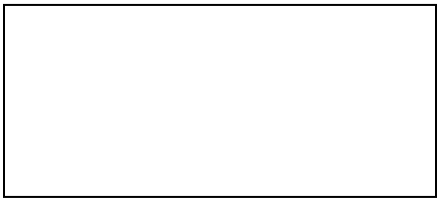
Name: _____ Date: _____

Decide which shape does not belong and explain why.

A. 

B. 

C. 



Name: _____ Date: _____

Object Measured	inches	feet	yards

Object Measured	millimeters	centimeters	meters

Name: _____ Date: _____

Length

U.S.	
12 inches (in.)	= 1 foot (ft)
3 feet (ft)	= 1 yard (yd)
5280 feet (ft)	= 1 mile

Metric	
10 millimeters (mm)	= 1 centimeter (cm)
1000 millimeters (mm)	= 1 meter (m)
100 centimeters (cm)	= 1 meter (m)
1000 meters (m)	= 1 kilometer (km)

Weight/Mass

U.S.	
16 ounces (oz)	= 1 pound (lb)
2000 pounds (lb)	= 1 ton (T)

Metric	
1000 milligrams (mg)	= 1 gram
1000 grams (g)	= 1 kilogram (kg)

Capacity

U.S.	
8 fluid ounces (fl oz)	= 1 cup (c)
2 cups (c)	= 1 pint (pt)
2 pints (pt)	= 1 quart (qt)
4 quarts (qt)	= 1 gallon (gal)

Metric	
1000 milliliters (mL)	= 1 liter (L)
1000 liters (L)	= 1 kiloliter (kL)

Time

U.S.	
60 seconds (s)	= 1 minute (min)
60 minutes (min)	= 1 hour (hr)
24 hours (hr)	= 1 day (d)
7 days (d)	= 1 week (wk)
about 4 weeks (wk)	= 1 month (mo)
12 months (mo)	= 1 year (yr)
52 weeks (wk)	= 1 year (yr)
365 days (d)	= 1 year (yr)

Name: _____ Date: _____

	Description	**Fraction**
1.	A fraction > 1	_____
2.	A fraction in simplest form	_____
3.	A fraction < $\frac{1}{2}$	_____
4.	A fraction > $\frac{1}{2}$	_____
5.	A fraction equivalent to 1.5	_____
6.	A fraction < 1	_____
7.	A fraction = $\frac{1}{2}$	_____
8.	A fraction equivalent to $1\frac{1}{4}$	_____
9.	A fraction = 1	_____
10.	A fraction between 1 and 2	_____

Name: _____ Date: _____

Fractions and Decimals Anticipation Guide Statements

1. All improper fractions are greater than 1.
   True_____ False_____

2. One-fourth can be greater than one-half.
   True_____ False_____

3. All fractions with denominators of 100 can be written as decimals.
   True_____ False_____

4. All improper fractions can only be written as whole numbers.
   True_____ False_____

5. Fractions and decimals both indicate parts of a whole.
   True_____ False_____

Unit 7, Activity 2, Fractions and Decimals Anticipation Guide Statements with Answers and Explanations

Name: _____ Date: _____

Fractions and Decimals Anticipation Guide Statements

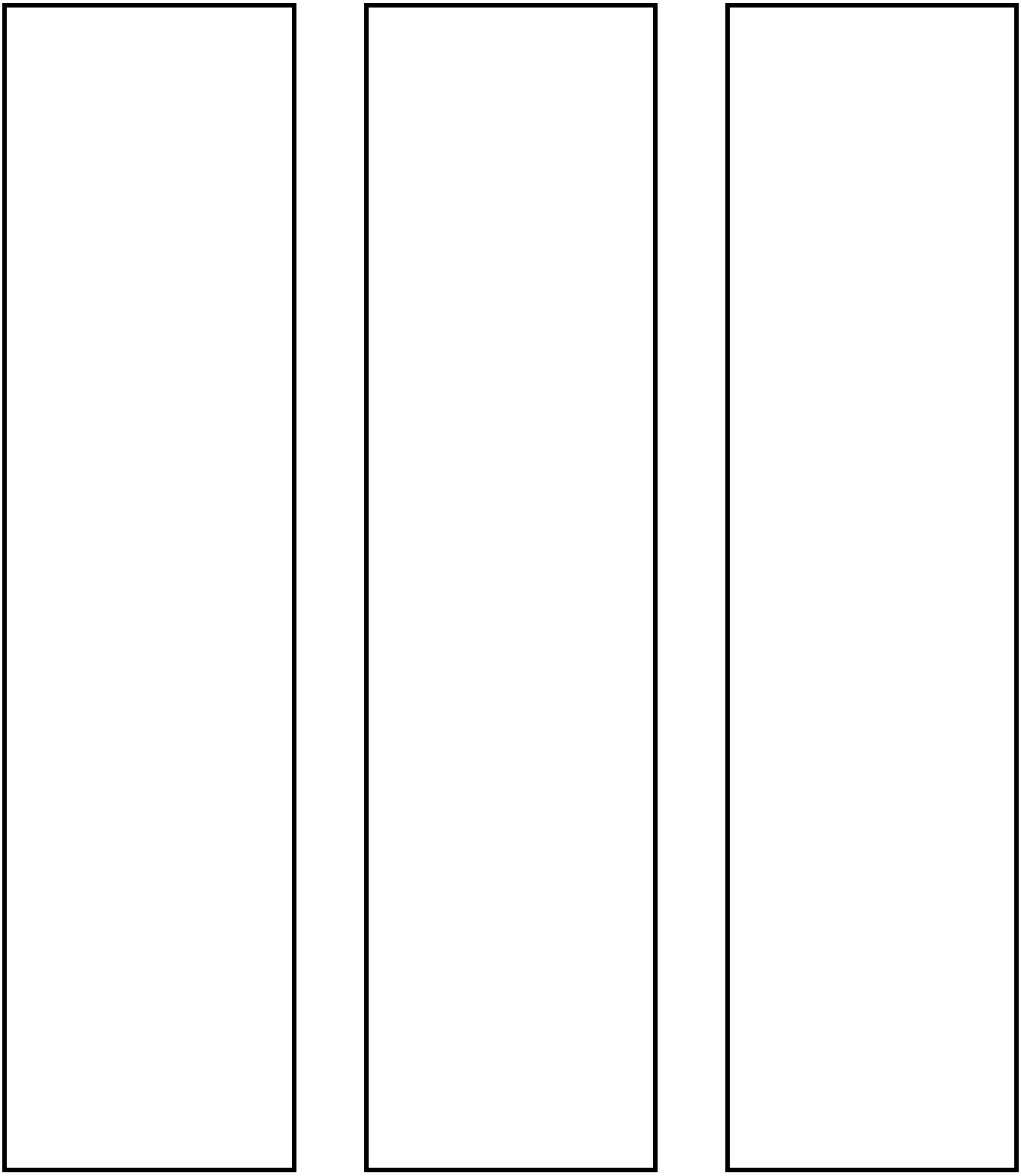
1. All improper fractions are greater than 1.
   True_____ False X
   An improper fraction can be equal to or greater than one. If the numerator of a fraction is equal to or greater than the denominator, the fraction is an improper fraction.

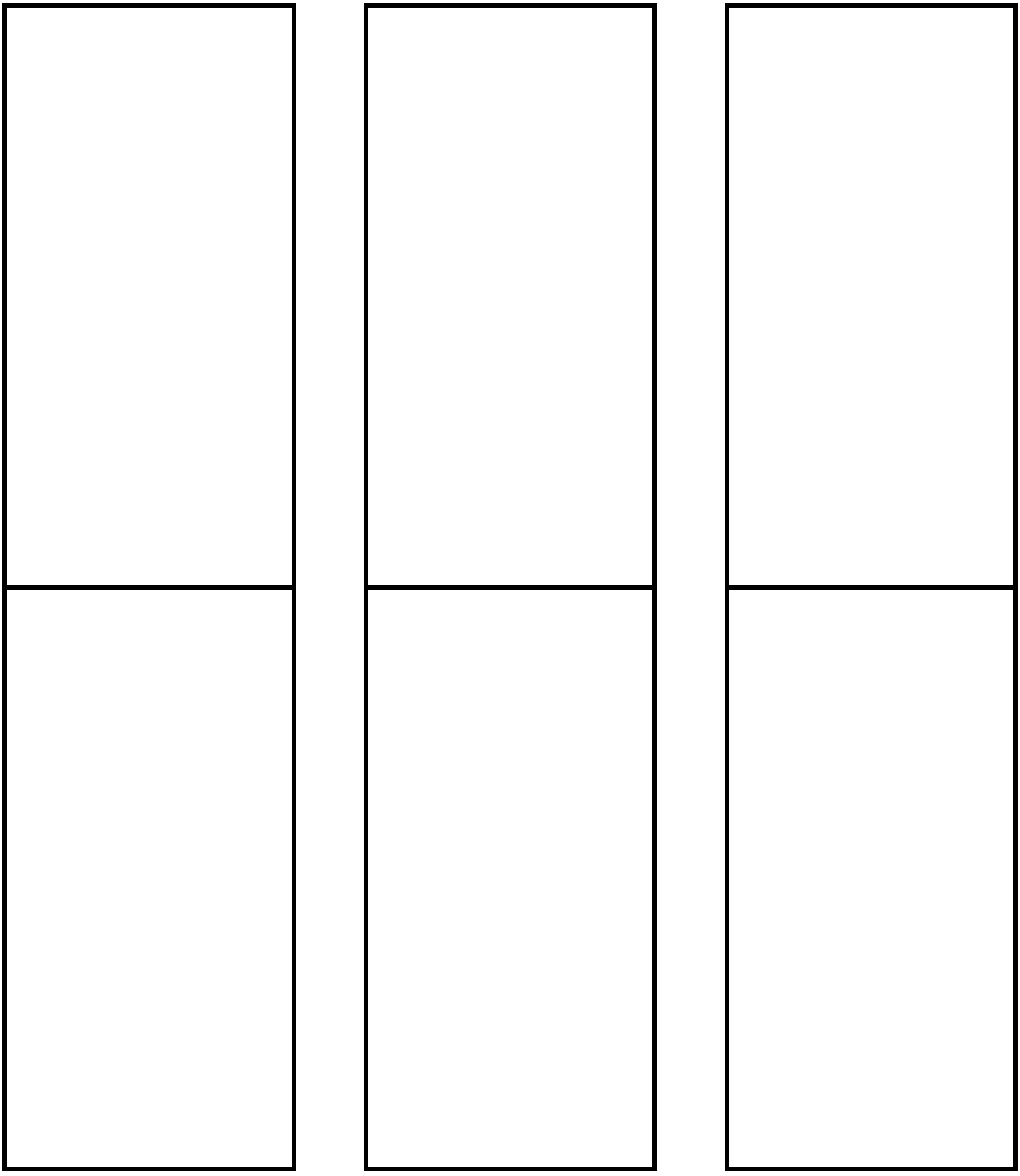
2. One-fourth can be greater than one-half.
   True X False_____
   The size of the fraction depends on the size of the whole. For instance, in comparing ¼ of a grapefruit to ½ of a grape the fourth of the grapefruit would be larger than the half of a grape. This understanding can help the student see this property of fractions when working with numbers (i.e., ¼ of 40 (10) is greater than ½ of 10 (5).

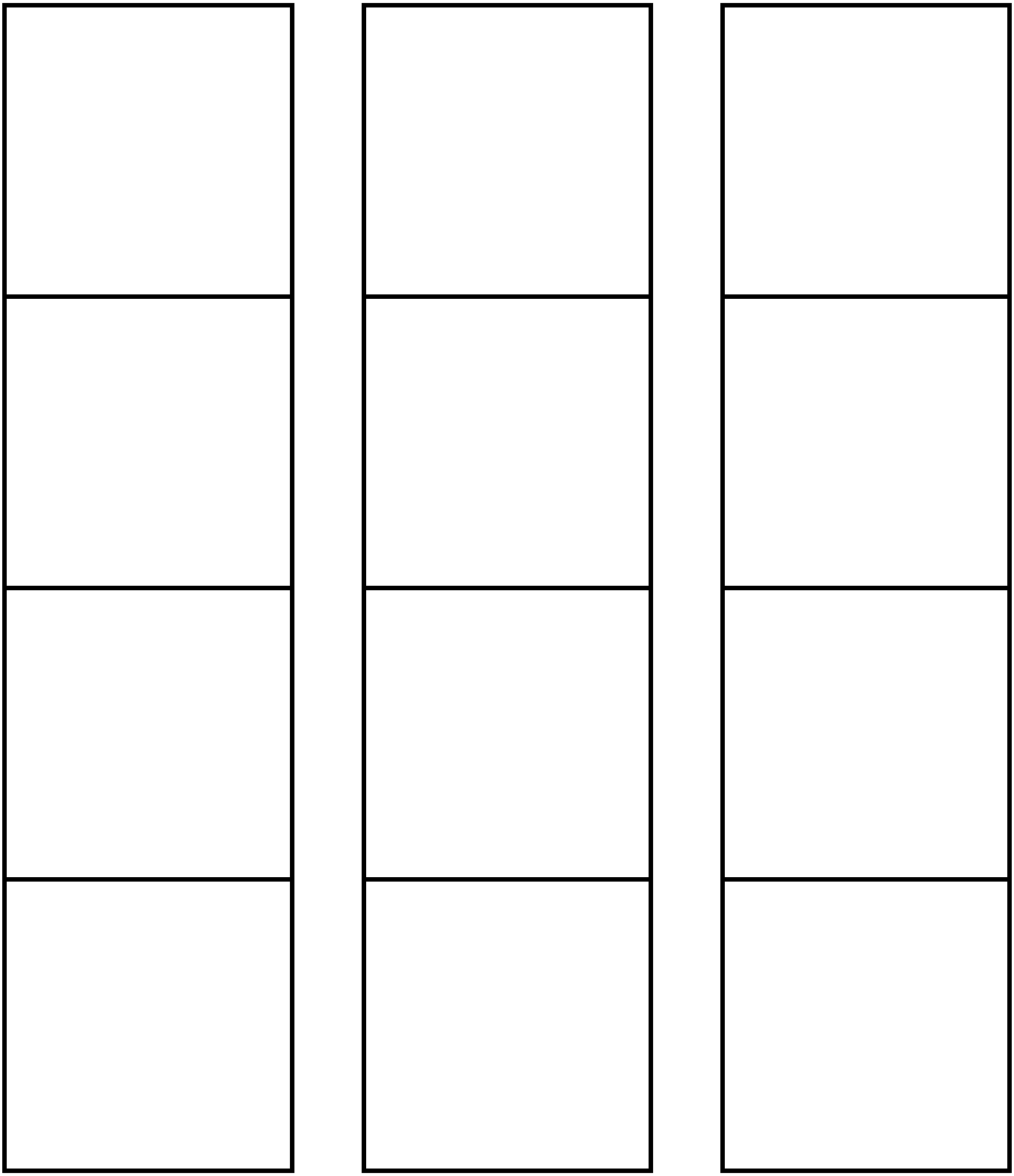
3. All fractions with denominators of 100 can be written as decimals.
   True X False_____

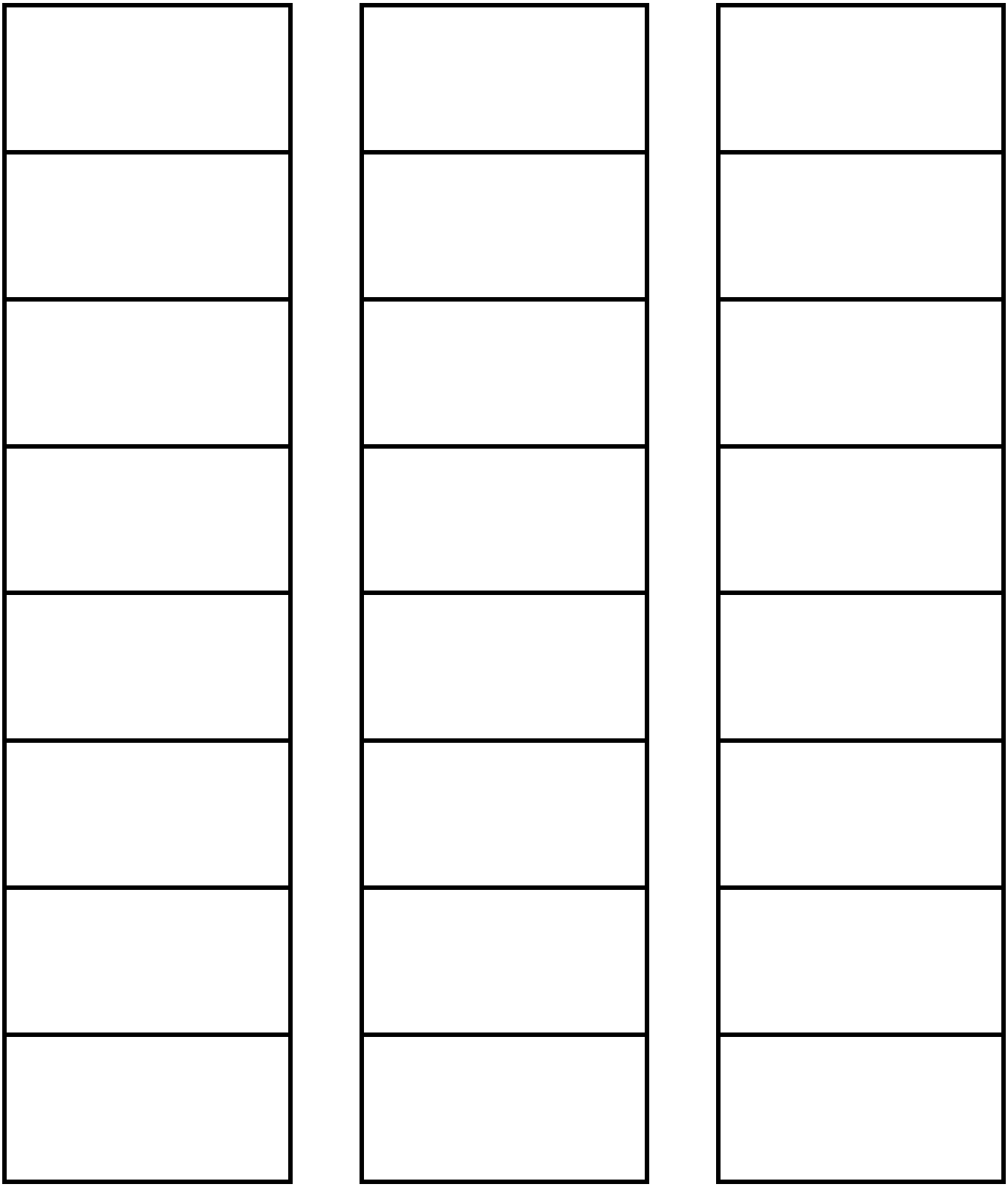
4. All improper fractions can only be written as whole numbers.
   True_____ False X
   Improper fractions can be written as a whole number when numerator and the denominator are the same number. But if the numerator is larger than the denominator, the improper fraction is written as a mixed number.

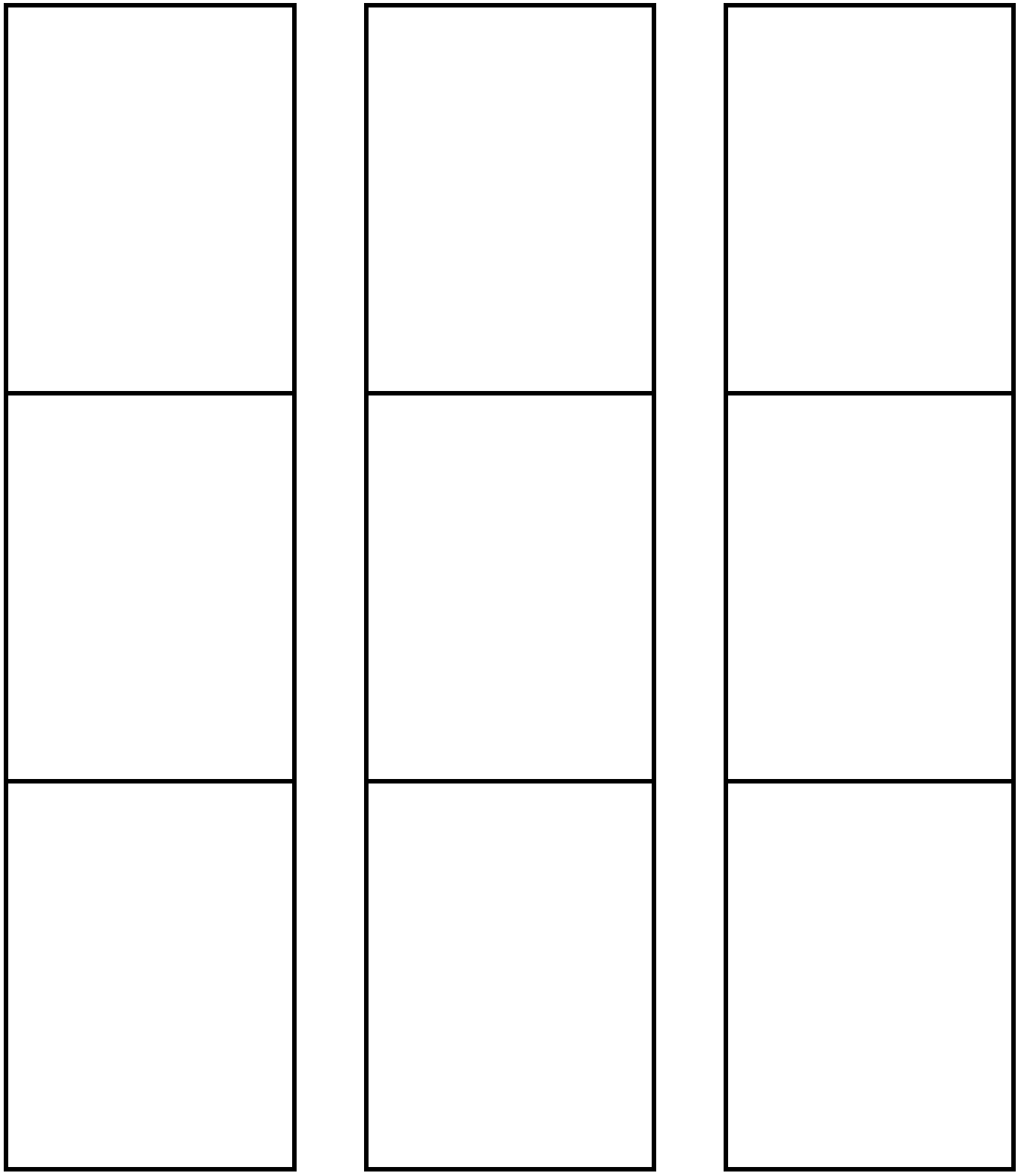
5. Fractions and decimals both indicate parts of a whole.
   True X False_____

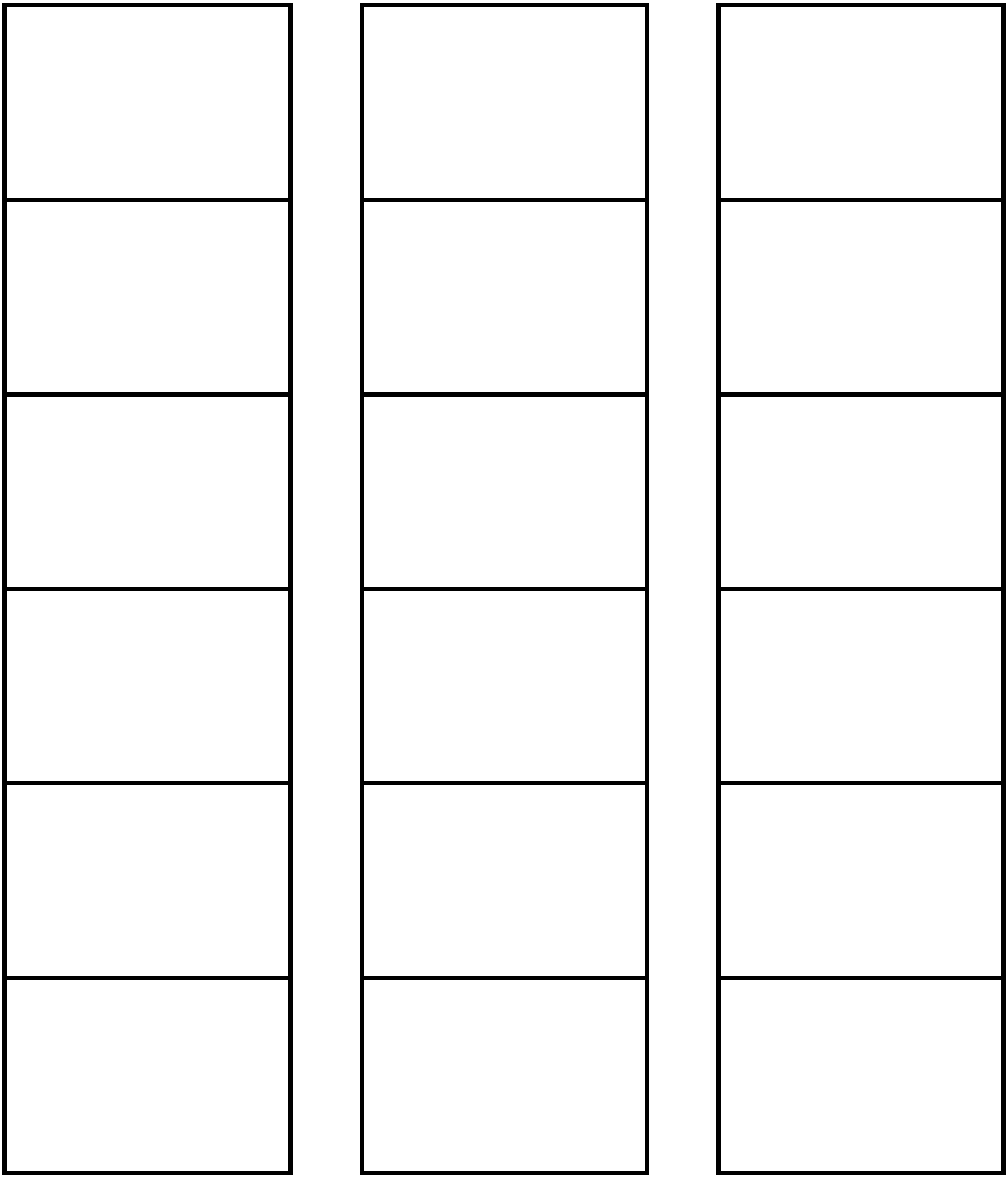






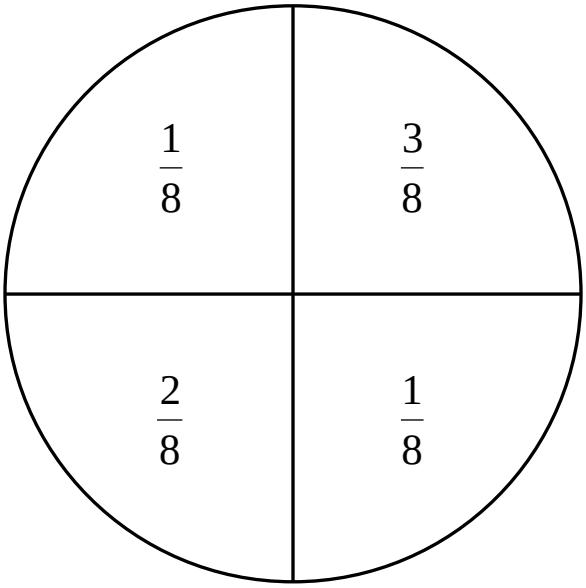




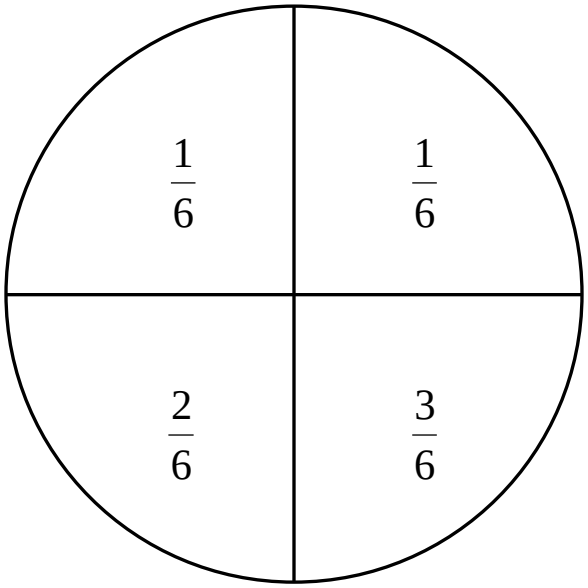


Name: _____ Date: _____

A.

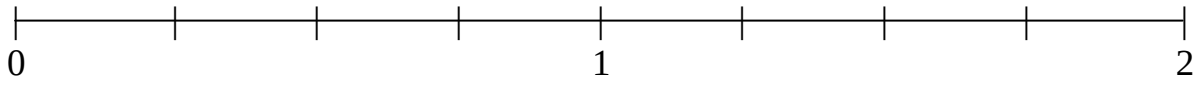


B.

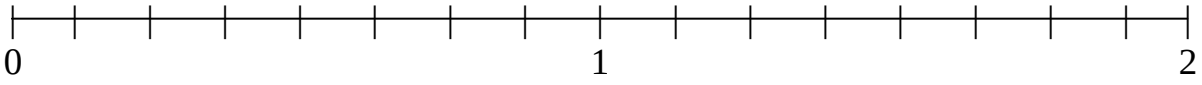


Name: _____ Date: _____

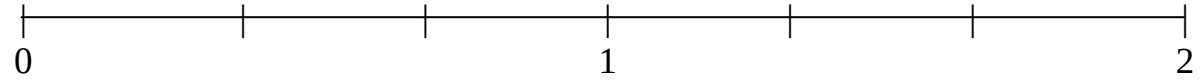
A.



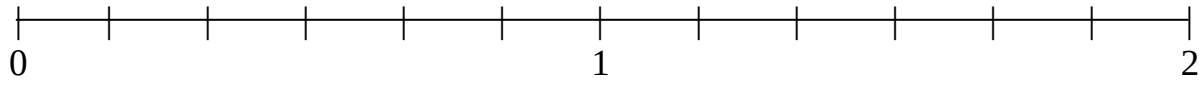
B.



C.



D.



Name: _____ Date: _____

Visually Representing Word Problems

Word Problem One: Sarah and John worked at the ABC Pickle Packing Company. They work on the same shift and tonight, Sarah packed $\frac{4}{12}$ of the pickles using an automated machine. John packed $\frac{3}{12}$ of the pickles by hand. How many of the pickles did they pack together?

First Sentence: Sarah and John worked at the ABC Pickle Packing Company.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence: They work on the same shift and tonight, Sarah packed $\frac{4}{12}$ of the pickles using an automated machine.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence: John packed $\frac{3}{12}$ of the pickles by hand.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Word Problem Two: Tamika decided to pick apples from a public orchard a few hours before they closed. She was able to pick $\frac{9}{10}$ of the amount of apples she wanted before closing. On the way home, she ate $\frac{3}{10}$ of the apples she picked. How much of the apples did she have left when she returned home?

First Sentence: Tamika decided to pick apples from a public orchard a few hours before they closed.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence: She was able to pick $\frac{9}{10}$ of the amount of apples she wanted before closing.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence: On the way home, she ate $\frac{3}{10}$ of the apples she picked.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Use $\frac{3}{8} + \frac{4}{8}$ to create a word problem: _____

_____

_____

_____

First sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Use $\frac{4}{5} - \frac{2}{5}$ to create a word problem: _____

_____

_____

_____

First Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Use $\frac{3}{9} + \frac{7}{9}$ to create a word problem: _____

_____

_____

_____

First Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Visually Representing Word Problems Suggested Answers

Word Problem One: Sarah and John worked at the ABC Pickle Packing Company. They work on the same shift and tonight, Sarah packed $\frac{4}{12}$ of the pickles using an automated machine. John packed $\frac{3}{12}$ of the pickles by hand. How many of the pickles did they pack together?

First Sentence: Sarah and John worked at the ABC Pickle Packing Company.

Sarah	and	John	worked	at
the	pickle	company.	_____	_____

Second Sentence: They work on the same shift and tonight, Sarah packed $\frac{4}{12}$ of the pickles using an automated machine.

Sarah	picked	$\frac{4}{12}$	pickles	where
she	and	John	worked.	_____

Third Sentence: John packed $\frac{3}{12}$ of the pickles by hand.

Together	Sarah	and	John	picked
$\frac{4}{12}$	and	$\frac{3}{12}$	pickles.	_____

Word Problem Two: Tamika decided to pick apples from a public orchard a few hours before they closed. She was able to pick $\frac{9}{10}$ of the amount of apples she wanted before closing. On the way home, she ate $\frac{3}{10}$ of the apples she picked. How much of the apples did she have left when she returned home?

First Sentence: Tamika decided to pick apples from a public orchard a few hours before they closed.

Tamika	decided	to	pick	apples
from	an	orchard.	_____	_____

Second Sentence: She was able to pick $\frac{9}{10}$ of the amount of apples she wanted before closing.

Tamika	picked	$\frac{9}{10}$	of	the
apples	she	wanted	before	closing.

Third Sentence: On the way home she ate $\frac{3}{10}$ of the apples she picked.

Tamika	picked	$\frac{9}{10}$	of	the
apples	and	ate	$\frac{3}{10}$.	_____

Use $\frac{3}{8} + \frac{4}{8}$ to create a word problem: Answers will vary. Problems will show a scenario where the fraction $\frac{3}{8}$ is added to $\frac{4}{8}$.

First sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Use $\frac{4}{5} - \frac{2}{5}$ to create a word problem: Answers will vary. Problems will show a scenario where the fraction $\frac{4}{5}$ is subtracted from $\frac{2}{5}$.

First Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Third Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Use $\frac{3}{9} + \frac{7}{9}$ to create a word problem: Answers will vary. Problems will show a scenario where the fraction $\frac{3}{9}$ is added to $\frac{7}{9}$.

First Sentence:

_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Second Sentence:

_____

_____ _____ _____ _____ _____

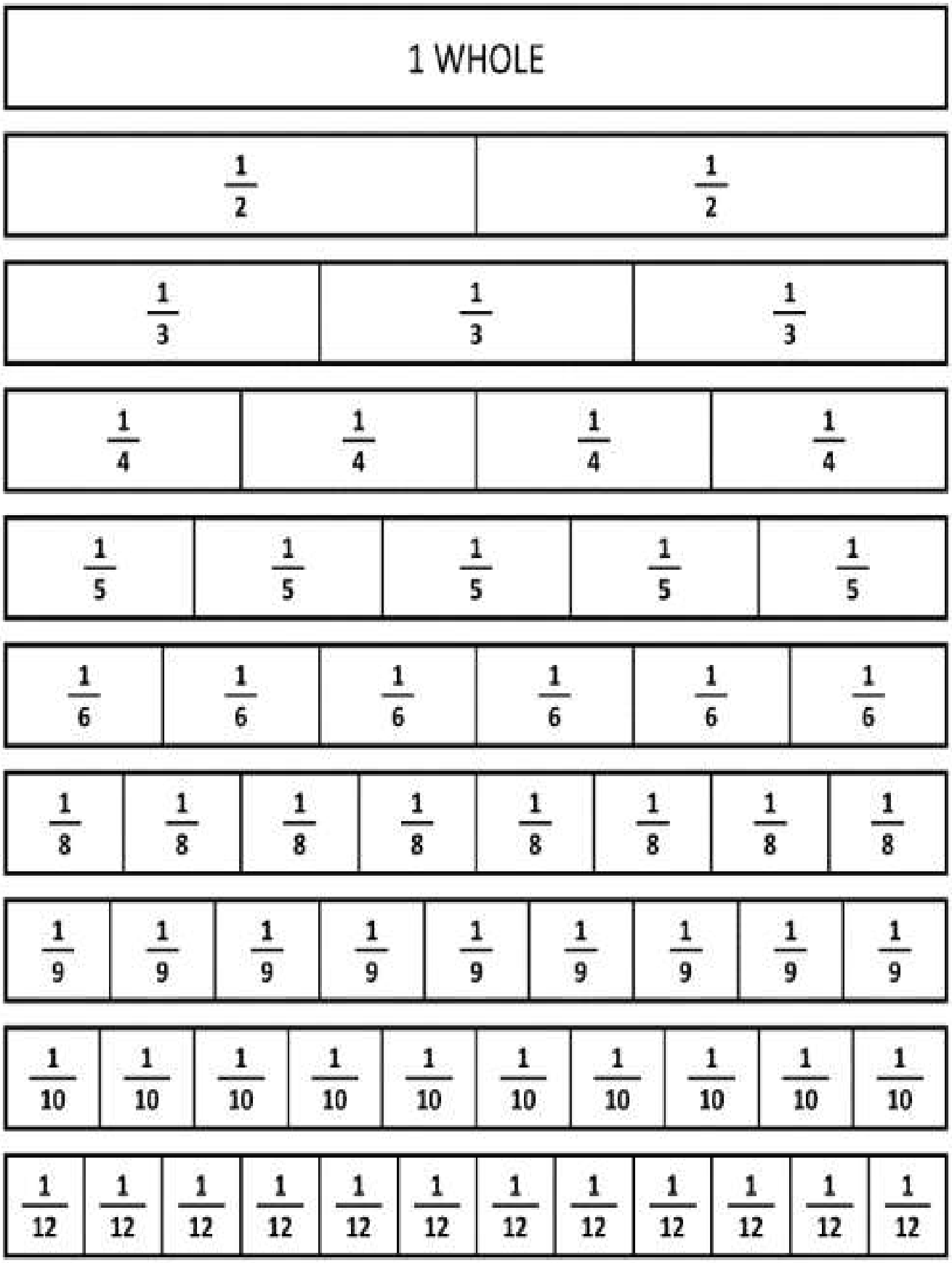
_____ _____ _____ _____ _____

Third Sentence:

_____

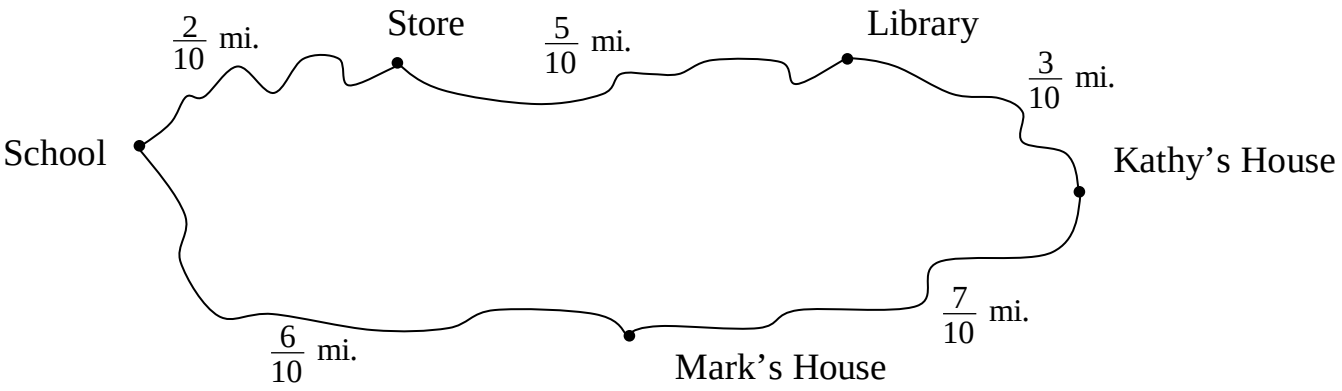
_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

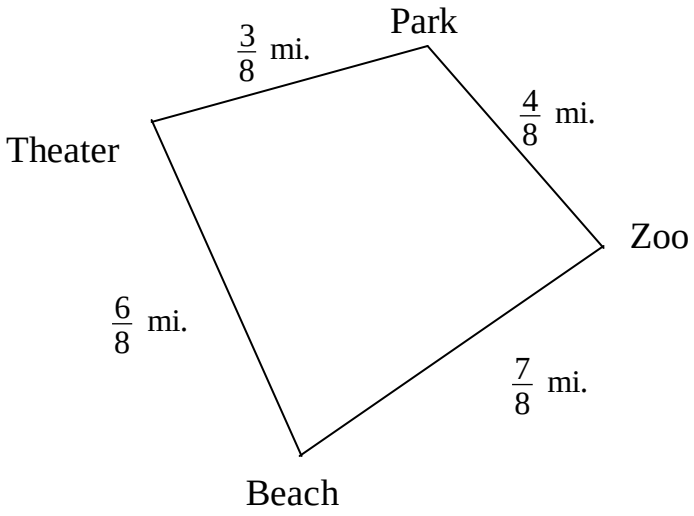

1 WHOLE
1/2 1/2
1/3 1/3 1/3
1/4 1/4 1/4 1/4
1/5 1/5 1/5 1/5 1/5
1/6 1/6 1/6 1/6 1/6 1/6
1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8
1/9 1/9 1/9 1/9 1/9 1/9 1/9 1/9 1/9
1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10
1/12 1/12 1/12 1/12 1/12 1/12 1/12 1/12 1/12 1/12 1/12 1/12

Name: _____ Date: _____

Map A



Map B



Unit 7, Activity 13, Who Are We?

Name: _____ Date: _____

Use the fractions in the box to find two answers to fit each statement.

$\frac{1}{4}$	$\frac{2}{8}$	$\frac{10}{10}$	$\frac{2}{4}$	$\frac{2}{2}$	$\frac{5}{8}$
$\frac{5}{10}$	$\frac{7}{8}$	$\frac{1}{1}$	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{2}$
$\frac{3}{4}$	$\frac{4}{8}$	$\frac{4}{4}$	$\frac{6}{8}$	$\frac{9}{10}$	$\frac{8}{8}$

1. A fraction between $\frac{1}{4}$ and $\frac{5}{8}$ _____

2. A fraction less than $\frac{1}{2}$ _____

3. Two fractions whose sum is 1 _____

4. Two fractions whose sum is $1\frac{1}{2}$ _____

5. Two fractions whose difference is almost 0 _____

6. Two fractions whose sum is almost 1 _____

7. Two fractions whose difference is $\frac{3}{8}$ _____

8. Two fractions whose sum is $\frac{8}{8}$ _____

9. Two fractions whose difference is $\frac{2}{4}$ _____

10. Two fractions whose sum is greater than 1 _____

Unit 7, Activity 13, Who Are We? with Answers

Name: _____ Date: _____

Use the fractions in the box to find two answers to fit each statement.

$\frac{1}{4}$	$\frac{2}{8}$	$\frac{10}{10}$	$\frac{2}{4}$	$\frac{2}{2}$	$\frac{5}{8}$
$\frac{5}{10}$	$\frac{7}{8}$	$\frac{1}{1}$	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{2}$
$\frac{3}{4}$	$\frac{4}{8}$	$\frac{4}{4}$	$\frac{6}{8}$	$\frac{9}{10}$	$\frac{8}{8}$

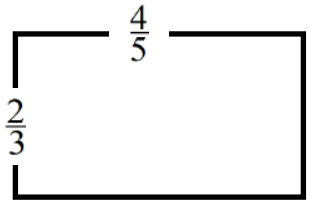
Sample Answers

1. A fraction between $\frac{1}{4}$ and $\frac{5}{8}$ — $\frac{2}{4}, \frac{3}{8}$
2. A fraction less than $\frac{1}{2}$ — $\frac{1}{4}$ or $\frac{3}{8}$
3. Two fractions whose sum is 1 — $\frac{1}{4}+\frac{3}{4}$ or $\frac{1}{8}+\frac{7}{8}$
4. Two fractions whose sum is $1\frac{1}{2}$ — $\frac{1}{1}+\frac{1}{2}$ or $\frac{2}{2}+\frac{1}{2}$
5. Two fractions whose difference is almost 0 — $\frac{7}{8}-\frac{6}{8}$ or $\frac{10}{10}-\frac{9}{10}$
6. Two fractions whose sum is almost 1 — $\frac{1}{8}+\frac{6}{8}$ or $\frac{2}{8}+\frac{5}{8}$
7. Two fractions whose difference is $\frac{3}{8}$ — $\frac{8}{8}-\frac{5}{8}$ or $\frac{7}{8}-\frac{4}{8}$
8. Two fractions whose sum is $\frac{8}{8}$ — $\frac{1}{8}+\frac{7}{8}$ or $\frac{2}{8}+\frac{6}{8}$
9. Two fractions whose difference is $\frac{2}{4}$ — $\frac{4}{4}-\frac{2}{4}$ or $\frac{3}{4}-\frac{1}{4}$
10. Two fractions whose sum is greater than 1 — $\frac{2}{4}+\frac{3}{4}$ or $\frac{4}{8}+\frac{5}{8}$

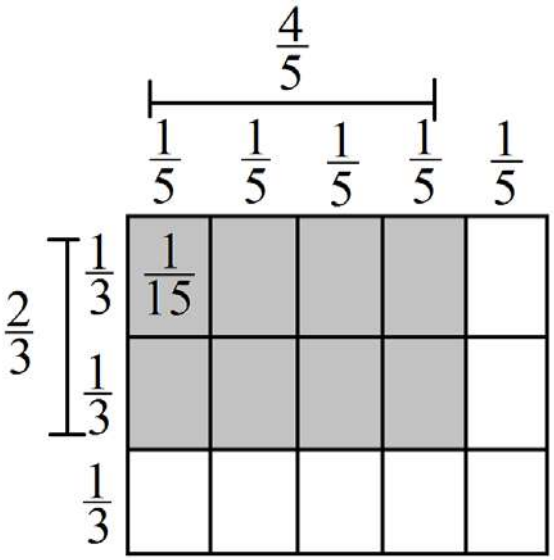
Name: _____ Date: _____

Process Guide: Area Model for Fraction by Fraction Multiplication Problems

1. **Explore**: What would you do to find the area of this rectangle? (*Area = length × width*)



2. Multiplying 4/5 by 2/3 will give a product less than 4/5. How do you know that this statement is true? Try breaking the rectangle into smaller rectangle sections. You can visualize the area's being 3 by 5 small rectangles each with a length of 1/5 and a width of 1/3.



Explain: Explain how the smaller rectangle sections of the whole are used to solve the problem.

_____

_____

_____

3. **Understand**: Answer the following questions to better understand the process.

   a. Why are the fractions 4/5 and 2/3 expressed as unit fractions?

_____

_____

_____

b. Why were 5/5 used for the length and 3/3 used for the width of the large rectangle when 4/5 and 2/3 are the fractions needed?

_____
_____
_____

c. Why were only 8 of the 15 smaller rectangles used in the area?

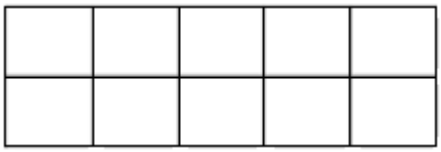
_____
_____
_____

d. What is the product? _____

e. **Conclusion**: How is the Area Model of multiplication used to solve the multiplication with fractions?

_____
_____
_____

4. **Apply**: Apply the Area Model of multiplication method to solve $2/5 \times 1/2$. Use the grid below to solve.



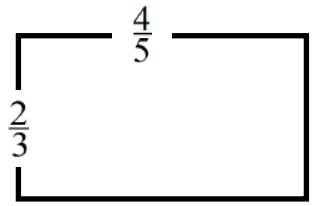
5. **Reason**: Would multiplying the numerator 2 by the numerator 1 and the denominator 5 by the denominator 2 give the same answer as your area model? Why is this so?

_____
_____
_____

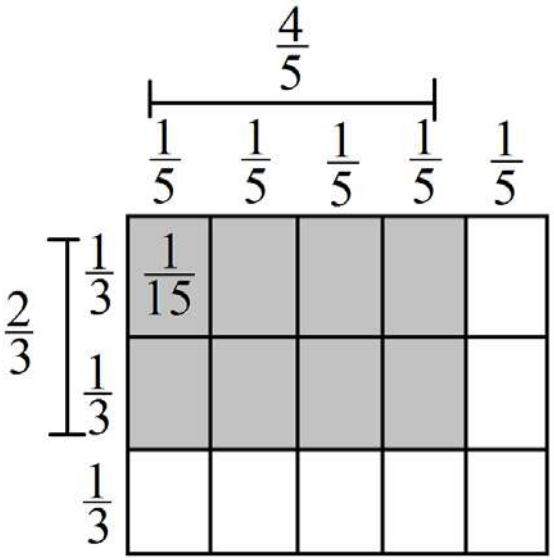
Name: _____ Date: _____

Process Guide: Area Model for Fraction by Fraction Multiplication Problems

1. **Explore**: What would you do to find the area of this rectangle? (*Area = length × width*)



2. Multiplying 4/5 by 2/3 will give a product less than 4/5. How do you know that this statement is true? Try breaking the rectangle into smaller rectangle sections. You can visualize the area's being 3 by 5 small rectangles each with a length of 1/5 and a width of 1/3.



Explain: Explain how the smaller rectangle sections of the whole are used to solve the problem.

Each rectangle section represents 1/5 of the length and 1/3 of the width. The fraction 4/5 *is expanded into 1/5 + 1/5 + 1/5 + 1/5 and the fraction* 2/3 *is expanded into 1/3 + 1/3. The area of each of the eight little rectangles is found.*

3. **Understand**: Answer the following questions to better understand the process.

   a. How are the fractions 4/5 and 2/3 expressed? Why are they expressed that way?

   The fraction 4/5 *and* 2/3 *are expressed as unit fractions. Each small rectangle is one square unit (*1/15*) of the whole with an area of 1/5 × 1/3 .*

b. Why were 5/5 used for the length and 3/3 used for the width of the large rectangle when 4/5 and 2/3 are the fractions needed?

*The area of the grid is one square unit (*5/5 × 3/3*). 4/5 and 2/3 represents the square units covered or shaded out of the square unit. Only a* 4/5 × 2/3 *square area will be covered or shaded.*

c. Why were only 8 of the 15 smaller rectangles used in the area?

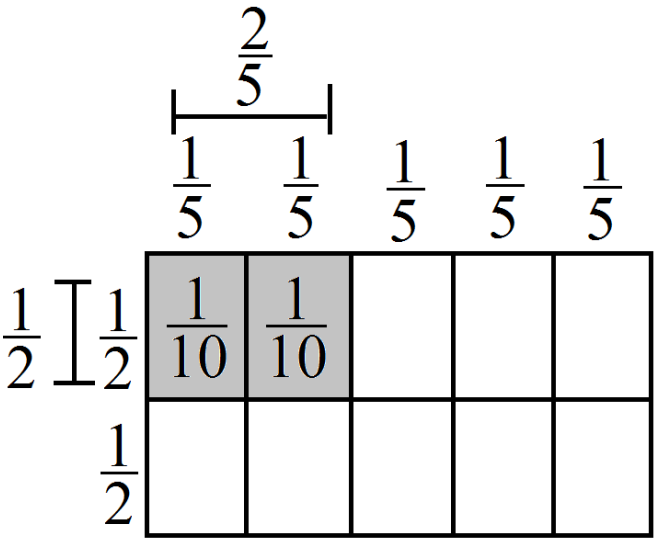
The 15 rectangles represent the whole square unit. Only 8 of the rectangles represent 4/5 × 2/3.

d. What is the product? *8/15*

e. **Conclusion**: How is the Area Model of multiplication used to solve the multiplication with fractions?

The Area Model of multiplication visually shows how much a fraction represents. 2/3 × 4/5 is represented by 8/15 of the whole.

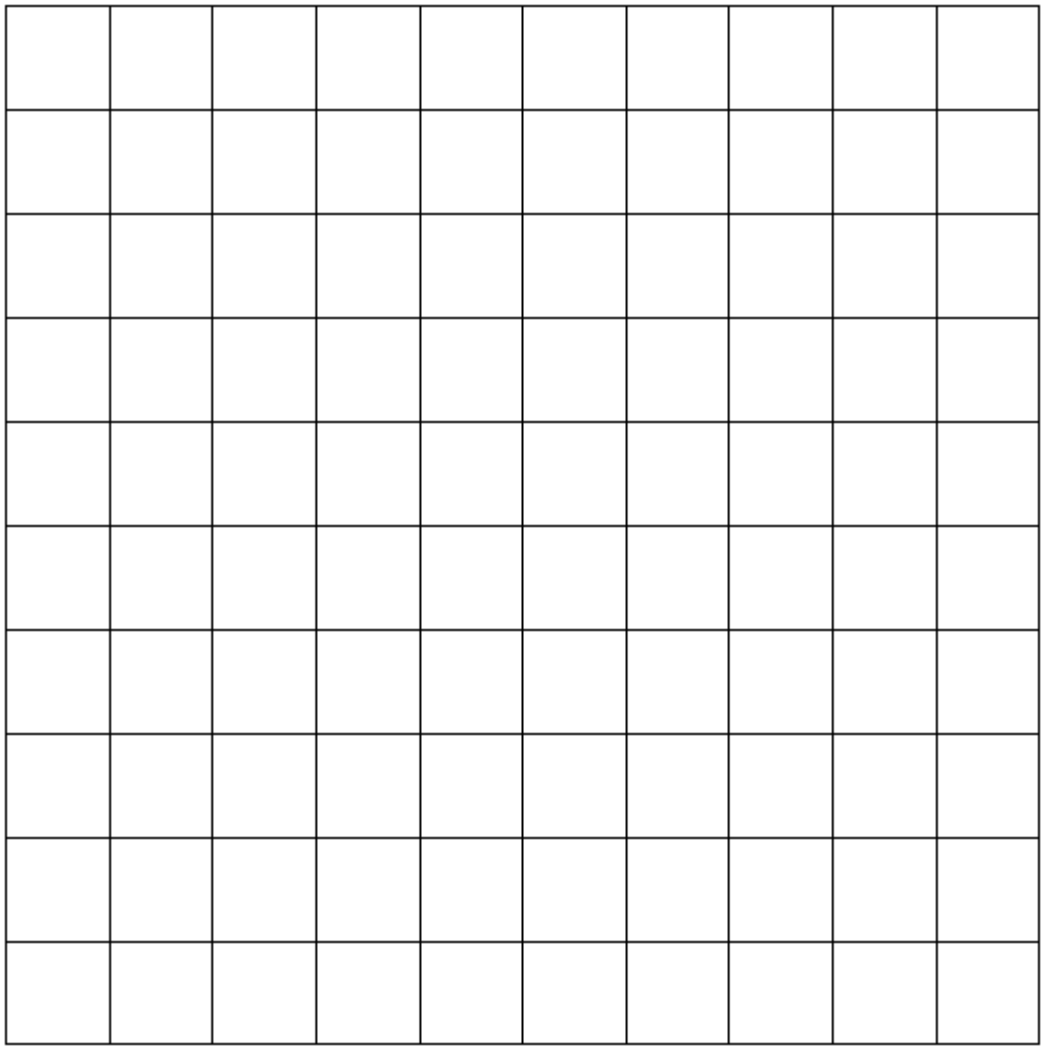
4. **Apply**: Apply the Area Model of multiplication method to solve 2/5 × 1/2. Use the grid below to solve.



2/5 × ½ = 2/10 = 1/5

5. **Reason**: Would multiplying the numerator 2 by the numerator 1 and the denominator 5 by the denominator 2 give the same answer as your area model? Why is this so?

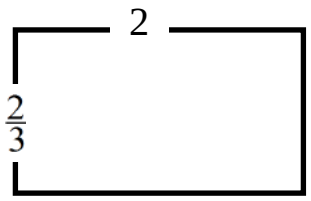
Multiplying 2/5 × 1/2 by multiplying the numerator by numerator and denominator by denominator will give the same answer as the area model.



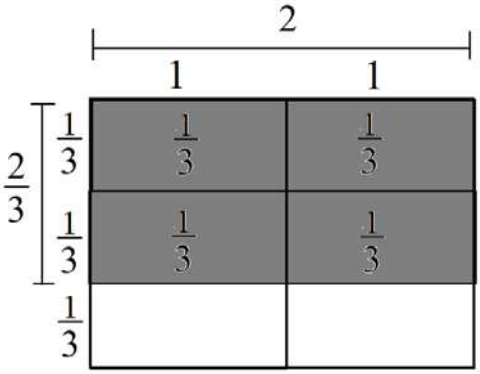
Name: _____ Date: _____

Area Model for Whole Number by Fraction Multiplication Problems

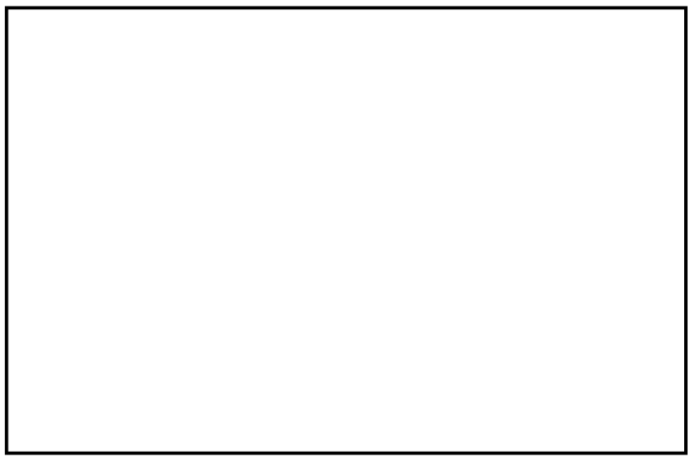
1. **Example:** 2 × 2/3 =?



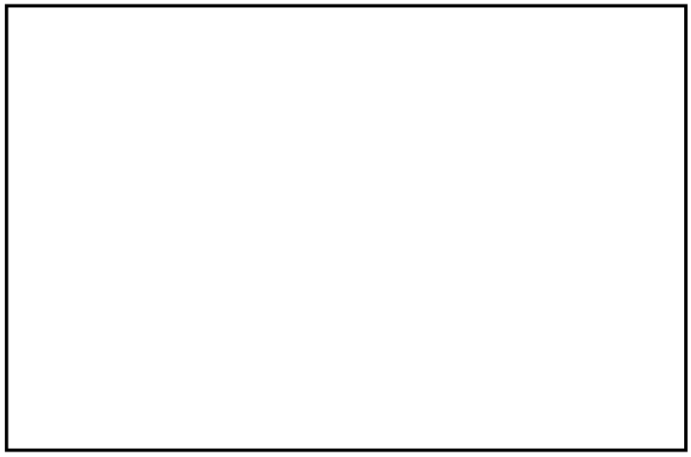
Multiplying 2 and 2/3 will give a product less than 2. First, the rectangle is divided into 2 equal rectangles vertically, representing the number 2. Next, the two rectangles are divided into thirds by drawing horizontal lines to create three sections. This will make 6 equal sections, 3 sections in each rectangle. Each section is 1/3 of each rectangle. Two of the thirds are shaded on both rectangles to represent 2/3 of 2 or 4/3.



2. **Try It: 6 × ¾ = _____**

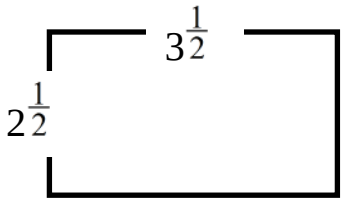


3. **Problem: 5 × 4/5= _____**

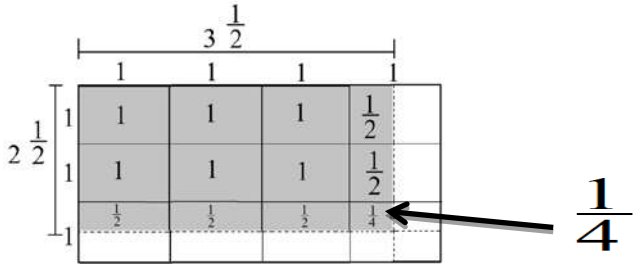


Area Model for Mixed Number by Mixed Number Multiplication Problems

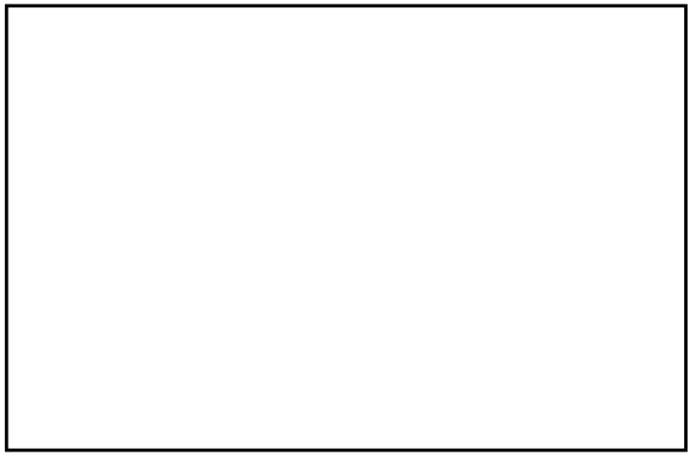
4. **Example:** 2 ½ groups of 3½ = ?



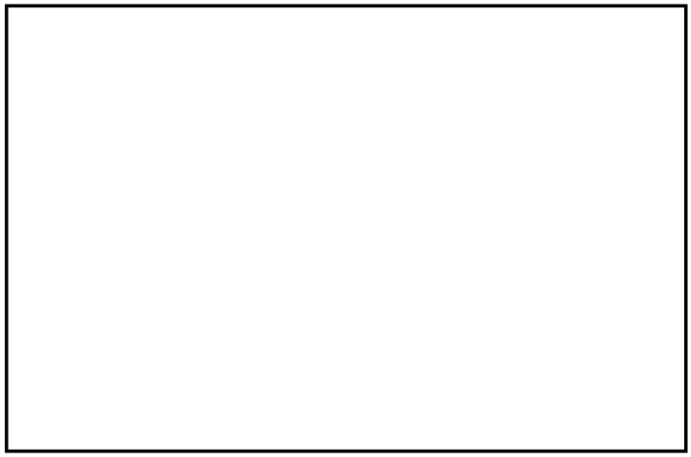
Multiplying 2 ½ and 3 ½ will give a product greater than 6. First, the large rectangle is divided into 4 rectangles vertically. Next, the large rectangle is divided into three rectangles horizontally. This will make 12 sections. The third section in the fourth vertical column is divided in half to represent the ½ of 3 ½. The sections in the third horizontal column are divided in half to represent the ½ of 2 ½. Notice, the last section in the rectangle has been divided into fourths. Three of the four squares are shaded horizontally along with ½ of the fourth square. Two of the three squares are shaded vertically along with ½ of the third square. This will give 6 whole sections, 5 half sections, and ¼ section. (6 + 5/2 + ¼ = 8 ¾).



5. **Try It: 2 1/3 × 4 ½= _____**

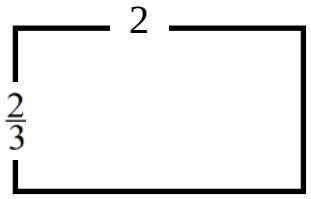


6. **Problem: 3 ¼ × 5 2/5 = _____**

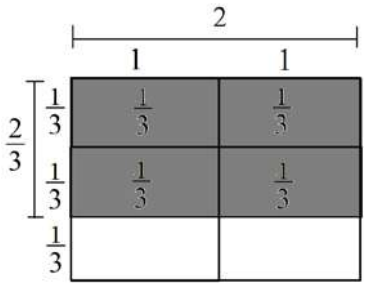


Area Model for Whole Number by Fraction Multiplication Problems

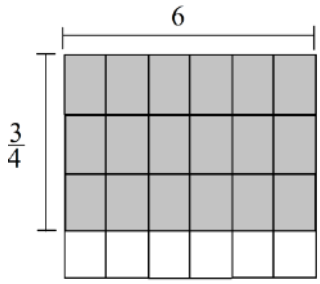
1. **Example:** 2 × 2/3 = ?



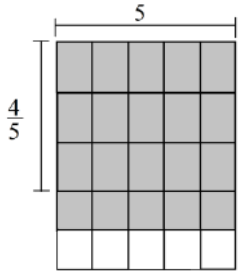
Multiplying 2 and 2/3 will give a product less than 2. First, the rectangle is divided into 2 equal rectangles vertically, representing the number 2. Next, the two rectangles are divided into thirds by drawing horizontal lines to create three sections. This will make 6 equal sections, 3 sections in each rectangle. Each section is 1/3 of each rectangle. Two of the thirds are shaded on both rectangles to represent 2/3 of 2 or 4/3.



2. **Try It: 6 × ¾ =** *4 1/2 (Model shows 18/4)*

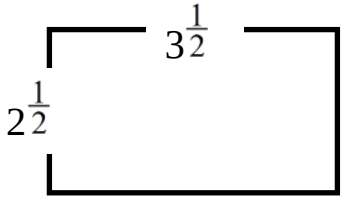


3. **Problem: 5 × 4/5 =** *20 (Model shows 20/5)*

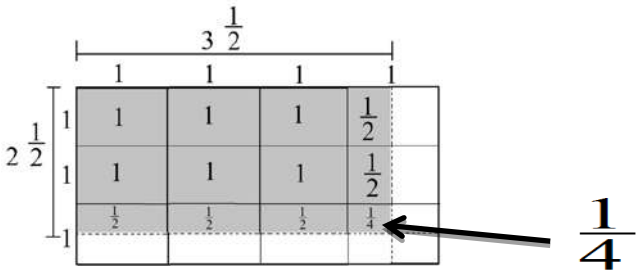


Area Model for Mixed Number by Mixed Number Multiplication Problems

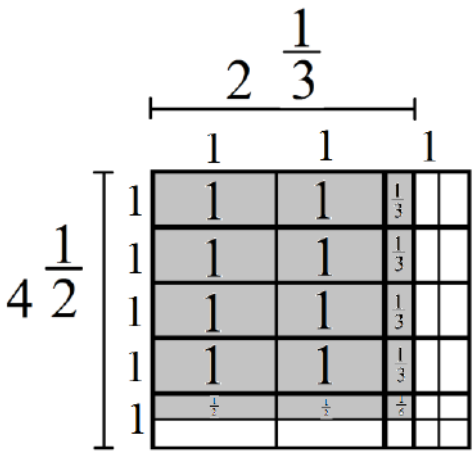
4. **Example:** 2 ½ groups of 3 ½ = ?



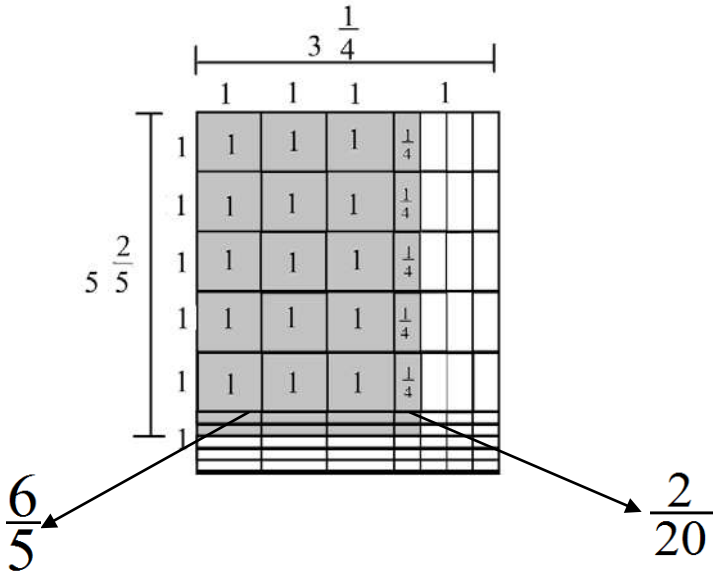
Multiplying 2 ½ and 3 ½ will give a product greater than 6. First, the rectangle is divided into 4 sections vertically. Next, the rectangle is divided into three sections horizontally. This will make 12 unit squares. The squares in the fourth vertical column are divided in half to represent the ½ of 3 ½. The squares in the third horizontal column are divided in half to represent the ½ of 2 ½. Notice, the last square in the rectangle has been divided into fourths. Three of the four squares are shaded horizontally along with ½ of the fourth square. Two of the three squares are shaded vertically along with ½ of the third square. Other squares are shaded to fill in the area. This will give 6 whole sections, 5 half sections, and ¼. (6 + 5/2 + ¼ = 8 ¾).



5. **Try: 2 1/3 × 4 ½=** *10 ½ (Model shows 8 + 4/3 + 2/2 +1/6)*



6. **Try: 3 ¼ × 5 2/5 =** *17 11/20 (Model shows 15 + 5/4 +6/5+ 2/20)*



Name: _____ Date: _____

The Plot Thickens, Creating Line Plots

Directions: You are an active character in these stories! Use what you know about creating line plots to create line plots needed to continue the story. Complete all your work in the time given and listen carefully to see how the story ends.

First Story: Mr. Johnston owns a small apartment complex. He is considering building a recreational area and wants to know if a playground area or an arcade would be better to build. He gathered the ages of the children and now needs help in displaying them. The approximate ages in years of the 20 children in the building are 13, 1, 5, 8, 7, 1, 0, 12, 10, 9, 1, 5, 5, 13, 6, 8, 16, 2, 3, 0. He wants to understand the results he collected, but doesn't want to spend time creating bar or circle graphs. He is sure a line graph would not work. You suggest that he create a line plot and help him do so.

Sort your data.

Title: _____

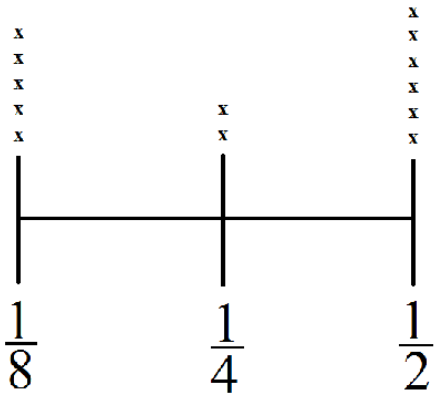
Unit 8, Activity12, The Plot Thickens, Creating Line Plots

Second Story: Cullen, the citrus seller, heard from Mr. Johnston that you are very good with creating line plots. He had created two line plots showing his inventory in the store after his latest Bag of Fruit sale. He is not sure which one is correct. He asks you to analyze his data, look at the graphs, and tell him which one is correct. His data showed three ¼ lb. bags, four ½ lb. bags, and five 1/8 lb. bags.

Bags of Fruit by weight in pounds

A

Correct? _____



Bags of Fruit by weight in pounds

B

Correct? _____

1. Help Cullen find out how many bags of fruit he sold altogether. He started with 10 bags.

2. Help Cullen find the total amount of fruit in pounds for the 1/8 pound bags that are left.

3. Are there at least 2 pounds of fruit left in the ½ pound bags of fruit? Help Cullen find out.

4. Find out if there is less than 1 pound left in the ¼ pound bags. If so, you can take them home.

Name: _____ Date: _____

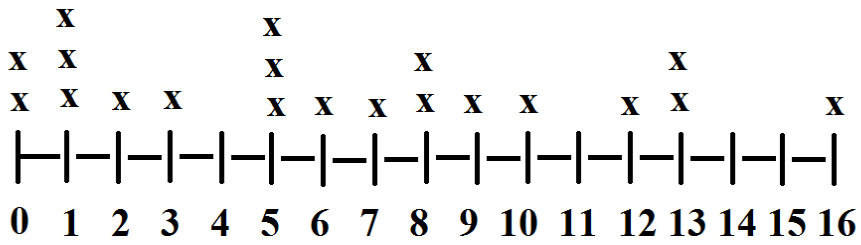
The Plot Thickens, Creating Line Plots

Directions: You are an active character in these stories! Use what you know about creating line plots to create line plots needed to continue the story. Complete all your work in the time given and listen carefully to see how the story ends.

First Story: Mr. Johnston owns a small apartment complex. He would like to know the ages of the children in the building. The ages in years of the 20 children in the building are 13, 1, 5, 8, 7, 1, 0, 12, 10, 9, 1, 5, 5, 13, 6, 8, 16, 2, 3, 0. He wants to understand the results he collected but does not want to spend time creating bar or circle graphs. He is sure a line graph will not work. You suggested he create a line plot and helped him do so.

Sort your data.

0, 0, 1, 1, 1, 2, 3, 5, 5, 5, 6, 7, 8, 8, 9, 10, 12, 13, 13, and 16



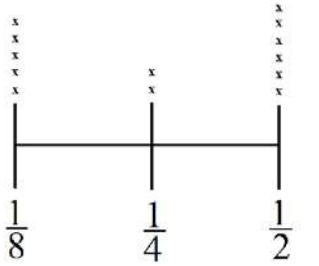
Ages of Children in Mr. Johnston's Apartment Complex

Second Story: Cullen, the citrus seller, heard from Mr. Johnston that you were very good with creating line plots. He created two line plots showing inventory on display in his store after his latest Bag of Fruit sale. He was not sure which one was correct. He asked you to analyze his data, look at the graphs, and tell him which one was correct. His data showed three ¼ lb. bag, four ½ lb. bag, and five 1/8 lb. bag.

Bags of Fruit by weight in pounds

A

Correct? Yes



Bags of Fruit by weight in pounds

B

Correct? No

1. Help Cullen find out how many bags of fruit he sold altogether (*12 bags*).
2. Help Cullen find the total amount of fruit in pounds for the 1/8 pound bags that are left (*5/8 pound*).
3. Are there at least 2 pounds of fruit left in the ½ pound bags of fruit? Help Cullen find out. (*Yes, there are 2 pound of fruit.)*
4. Find out if there is less than 1 pound left in the ¼ pound bags. If so, you can take them home. (*There is ¾ of a pound left, so you get to take those bags home.)*