

MSP

Grade 3 Module 5

Lesson Refreshers

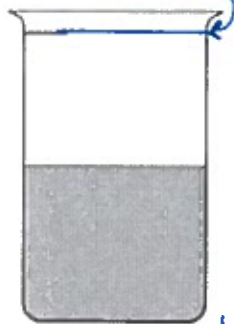
&

Homework Starters

Name _____

Date _____

1. A beaker is considered full when the liquid reaches the fill line shown near the top. Estimate the amount of water in the beaker by shading the drawing as indicated. The first one is done for you.



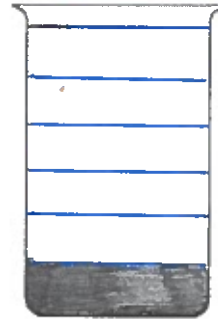
1 half $\frac{1}{2}$

2 equal parts



1 fifth $\frac{1}{5}$

5 equal parts



1 sixth $\frac{1}{6}$

6 equal parts

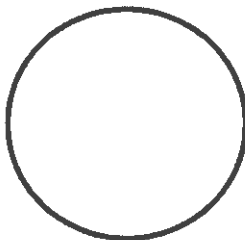
2. Danielle cut her candy bar into equal pieces as shown in the rectangles below. In the blanks below, name the fraction of candy bar represented by the shaded part.



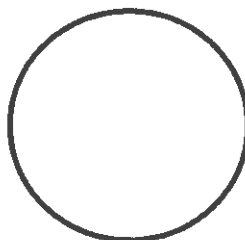




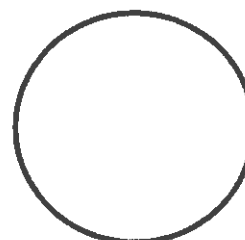
3. Each circle represents 1 whole pie. Estimate to show how you would cut the pie into fractional units as indicated below.



halves

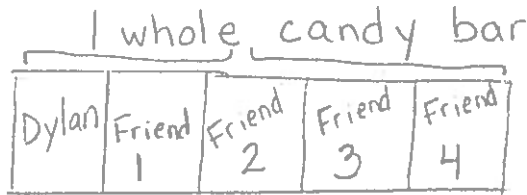


thirds



sixths

3. Dylan plans to eat 1 fifth of his candy bar. His 4 friends want him to share the rest equally. Show how Dylan and his friends can each get an equal share of the candy bar.



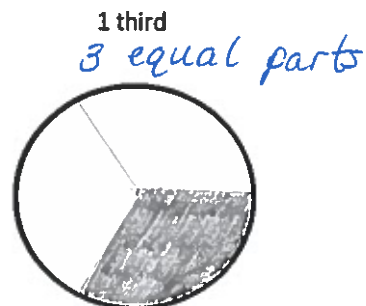
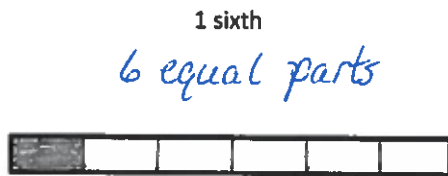
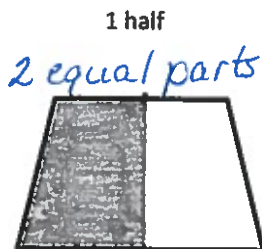
They each get 1 fifth ($\frac{1}{5}$).

My fifths fraction strip shows how they get an equal part.

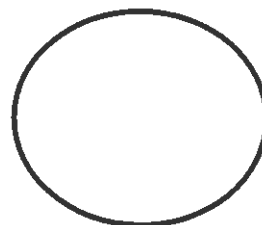
4. Nasir baked a pie and cut it in fourths. He then cut each piece in half.
- a. What fraction of the original pie does each piece represent?

- b. Nasir ate 1 piece of pie on Tuesday and 2 pieces on Wednesday. What fraction of the original pie was not eaten?

4. Each shape is 1 whole. Divide and shade to show the given fraction.



5. Each shape is 1 whole. Estimate to divide each into equal parts (do not draw fourths). Divide each whole using a different fractional unit. Write the name of the fractional unit on the line below the shape.



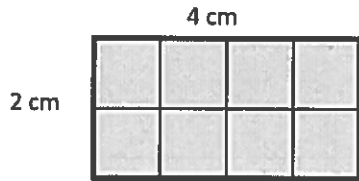
6. Charlotte wants to equally share a candy bar with 4 friends. Draw Charlotte's candy bar. Show how she can divide her candy bar so everyone gets an equal share. What fraction of the candy bar does each person receive?

Each person receives _____.

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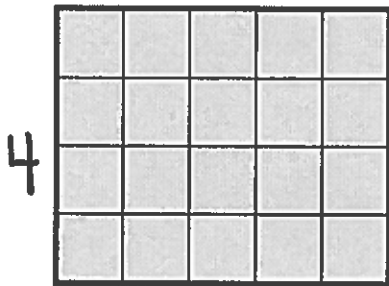
1. Ella placed square centimeter tiles on the rectangle below, and then labeled the side lengths. What is the area of her rectangle?



$$2 \text{ cm} \times 4 \text{ cm} = 8 \text{ cm}$$

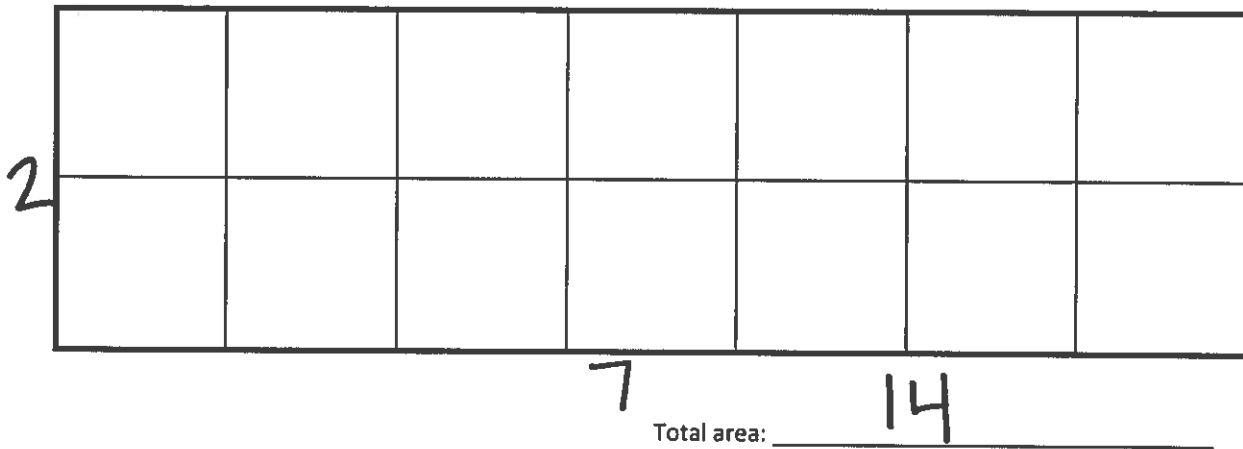
Total area: 8 cm

2. Kyle uses square centimeter tiles to find the side lengths of the rectangle below. Label each side length. Then, count the tiles to find the total area.



Total area: 20 sq cm

3. Maura uses square inch tiles to find the side lengths of the rectangle below. Label each side length. Then, find the total area.



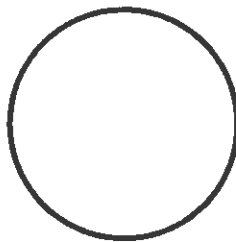
$$2 \times 7 = 14$$

2. This figure is divided into 6 parts. Are they sixths? Explain your answer.



No they are not sixths because they are not all the same size. To be sixths they have to be the same size.

3. Terry and his 3 friends baked a pizza during his sleepover. They want to share the pizza equally. Show how Terry can slice the pizza so that he and his 3 friends can each get an equal amount with none left over.



4. Draw two identical rectangles. Shade 1 seventh of one rectangle and 1 tenth of the other. Label the unit fractions. Use your rectangles to explain why $\frac{1}{7}$ is greater than $\frac{1}{10}$.



$\frac{1}{7}$ is larger.

* $\frac{1}{7}$ and $\frac{1}{10}$ are unit fractions.
 * As the denominator gets larger, the fraction gets smaller. To compare fractions with like numerators, look at the denominators. The fraction with the smaller denominator is the larger fraction.

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1. Complete the number sentence. Estimate to partition each strip equally, write the unit fraction inside each unit, and shade the answer.

Sample:

3 fourths = $\frac{3}{4}$



- a. 2 thirds =



- b. 5 sevenths =



- c. 3 fifths =

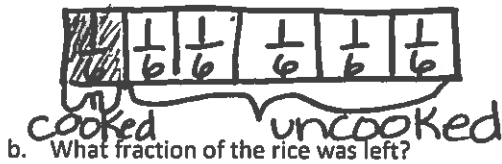


- d. 2 eighths =



2. Mr. Abney bought 6 kilograms of rice. He cooked 1 kilogram of it for dinner.

- a. What fraction of the rice did he cook for dinner?

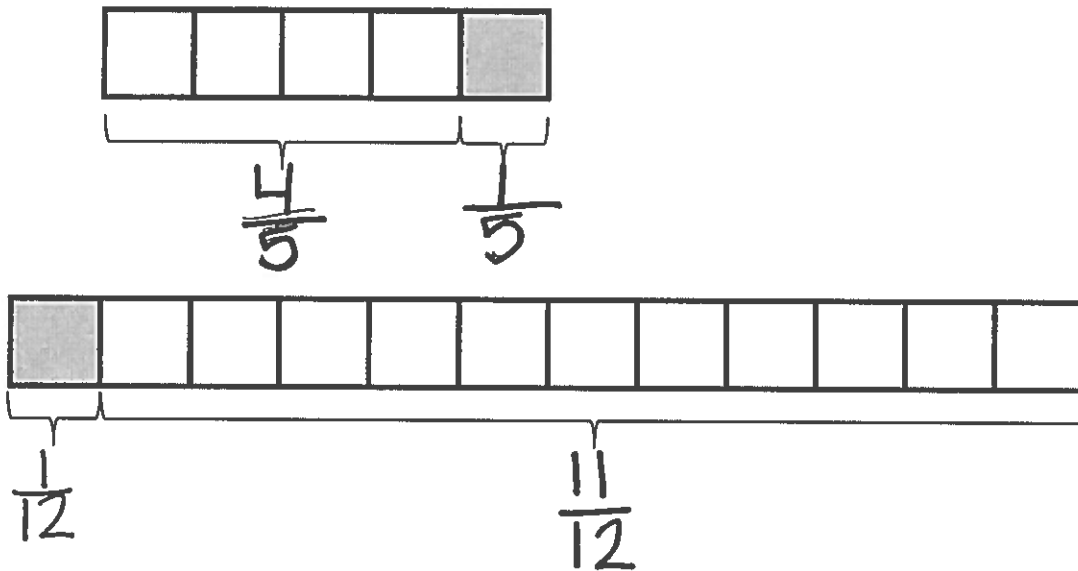


$\frac{1}{6}$ of the rice was cooked.

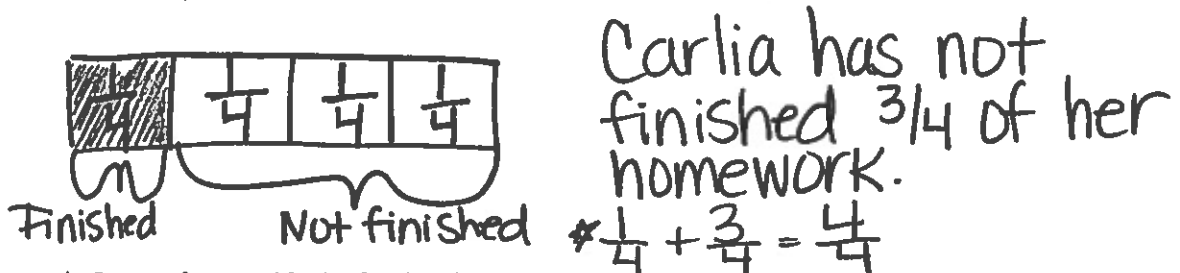
- b. What fraction of the rice was left?

$\frac{5}{6}$ of the rice was left.

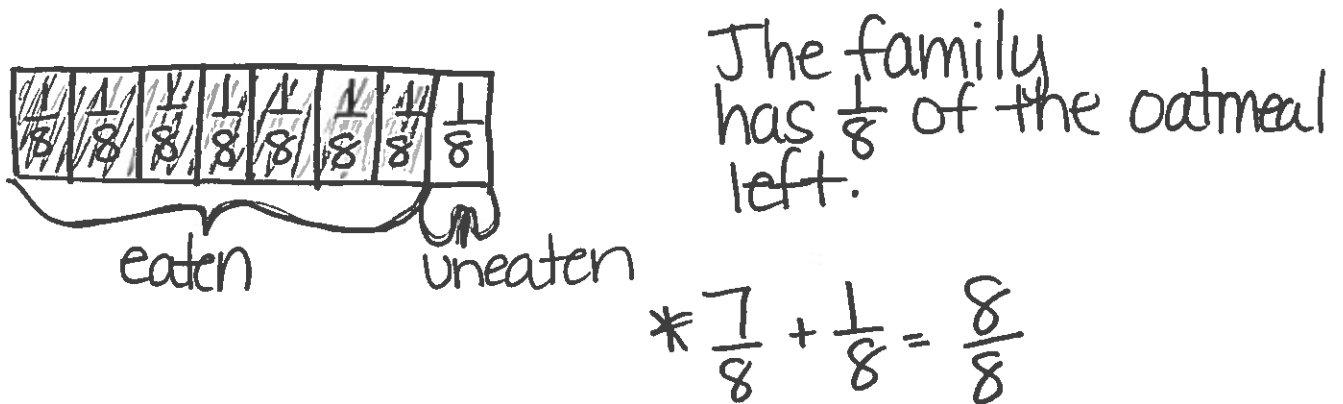
9. Each strip represents 1 whole. Write a fraction to label the shaded and unshaded parts.



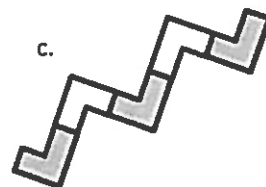
10. Carlia finished 1 fourth of her homework on Saturday. What fraction of her homework has she not finished? Draw and explain.



11. Jerome cooks 8 cups of oatmeal for his family. They eat 7 eighths of the oatmeal. What fraction of the oatmeal is uneaten? Draw and explain.

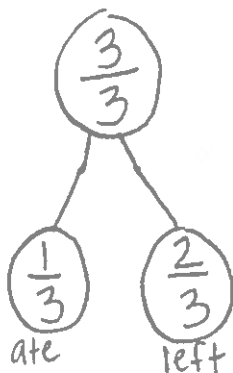
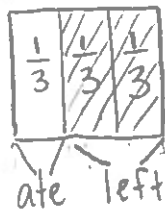


5. Draw a number bond with 2 parts showing the shaded and unshaded fractions of each figure. Decompose both parts of the number bond into unit fractions.



6. Johnny made a square peanut butter and jelly sandwich. He ate $\frac{1}{3}$ of it and left the rest on his plate. Draw a picture of Johnny's sandwich. Shade the part he left on his plate, and then draw a number bond that matches what you drew. What fraction of his sandwich did Johnny leave on his plate?

Sandwich:



↓ Rephrase the question as a statement.
 • Johnny left $\frac{2}{3}$ of the sandwich on his plate.

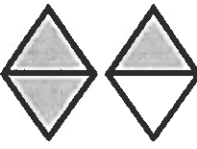
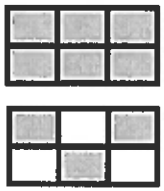
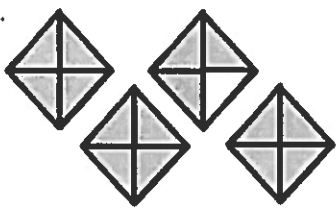

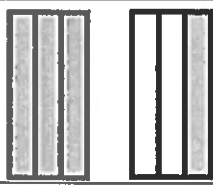

* The denominator (3) tells us there are 3 parts.

R. Shelman

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1. Each shape represents 1 whole. Fill in the chart.

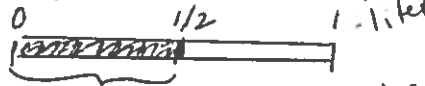
	Unit Fraction	Total Number of Units Shaded	Fraction Shaded
a. Sample: 	$\frac{1}{2}$	3	$\frac{3}{2}$
b. 	$\frac{1}{6}$	9	$\frac{9}{6}$
c. 	$\frac{1}{4}$	15	$\frac{15}{4}$
d. 	$\frac{1}{2}$	6	$\frac{6}{2}$
e. 	$\frac{1}{3}$	4	$\frac{4}{3}$
f. 	$\frac{1}{3}$	4	$\frac{4}{3}$

* Unit fraction is based on how many equal parts the shape is divided into


AM

3. After his football game, Malik drinks $\frac{1}{2}$ a liter of water and $\frac{1}{3}$ of a liter of juice. Did Malik drink more water or juice? Draw and estimate to partition. Explain your answer.

water



juice





Malik drank more water.
 $\frac{1}{2}$ is greater than $\frac{1}{3}$.
 $>$

4. Use $>$, $<$, or $=$ to compare.


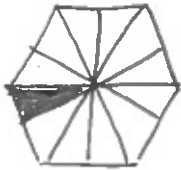



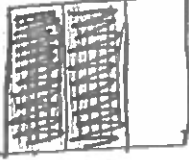
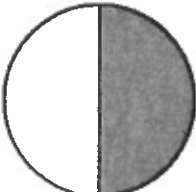
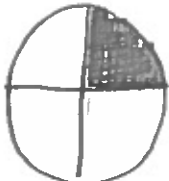
- a. 1 fourth 1 eighth
- b. 1 seventh 1 fifth
- c. 1 eighth $\frac{1}{8}$
- d. 1 twelfth $\frac{1}{10}$
- e. $\frac{1}{15}$ 1 thirteenth
- f. 3 thirds 1 whole

5. Write a word problem about comparing fractions for your friends to solve. Be sure to show the solution so that your friends can check their work.



6.	is less than	
7.	is greater than	

8. Fill in the blank with a fraction to make the statement true. Draw a matching model (same size and shape)

			
$\frac{1}{6}$ is greater than	$\frac{1}{12}$	$\frac{1}{5}$ is less than	$\frac{1}{2}$
			
$\frac{1}{3}$ is less than	$\frac{2}{3}$	$\frac{1}{2}$ is greater than	$\frac{1}{4}$

9. Debbie ate $\frac{1}{8}$ of a large brownie. Julian ate $\frac{1}{2}$ of a small brownie. Julian says, "I ate more than you because $\frac{1}{2} > \frac{1}{8}$."

- Use pictures and words to explain Julian's mistake.
- How could you change the problem so that Julian is correct? Use pictures and words to explain.

★ When comparing fractions, the whole must be the same size and same shape. If Debbie ate a large brownie and Julian ate a small brownie, you can't accurately compare.

★ Debbie and Julian would need to start with the same size brownie.

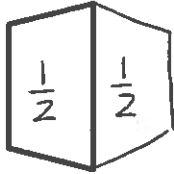
JMO

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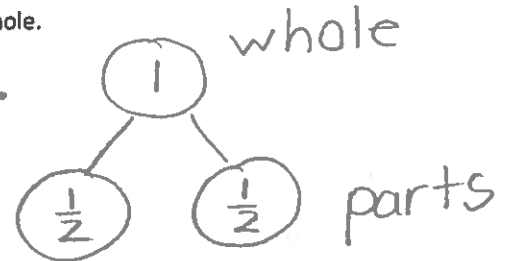
Each shape represents the given unit fraction. Estimate to draw a possible whole.

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

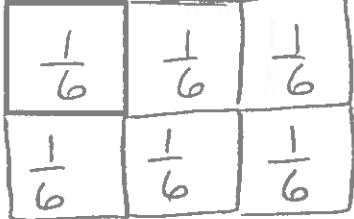
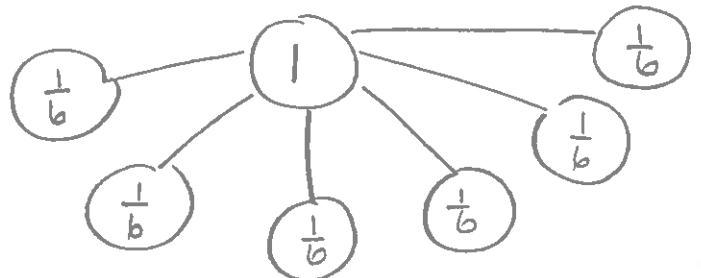


→ 2 equal parts

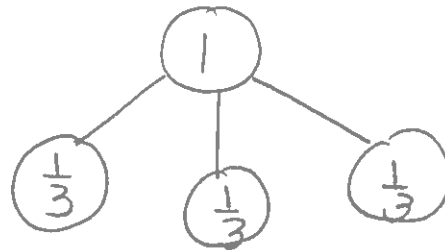
The numerator is always one.



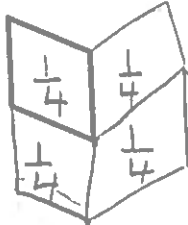
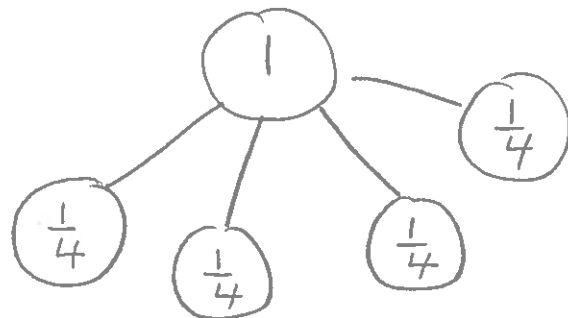
2. $\frac{1}{6}$

3. 1 third

4. 1 fourth

Each shape represents the given unit fraction. Estimate to draw a possible whole, label the unit fractions, and draw a number bond that matches the drawing. The first one is done for you.

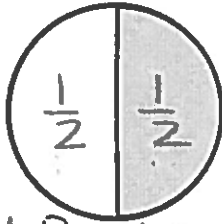
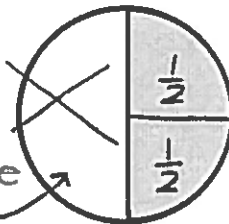
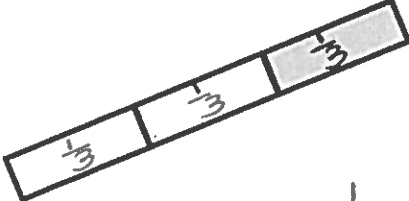
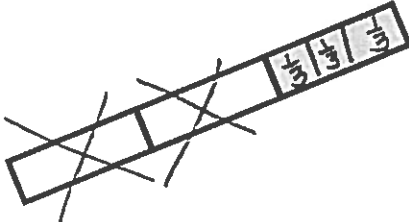
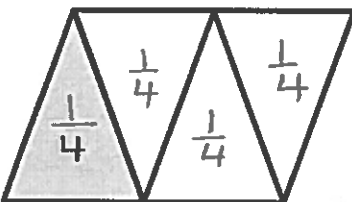
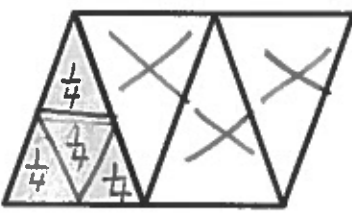
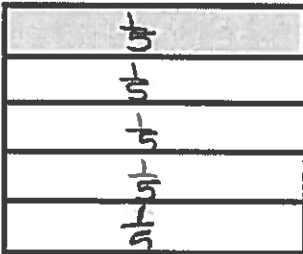
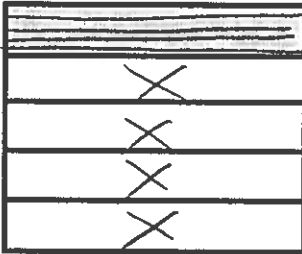
↓

A picture that shows the relationship between a number and its parts.

JK

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The shape represents 1 whole. Write a fraction to describe the shaded part.	The shaded part represents 1 whole. Divide 1 whole to show the same unit fraction you wrote in Part (a).
<p>1a.</p>  <p>Shaded Part: $\frac{1}{2}$</p>	<p>b.</p>  <p>The gray part is now the whole.</p>
<p>2a.</p>  <p>Shaded Part: $\frac{1}{3}$</p>	<p>b.</p> 
<p>3a.</p>  <p>Shaded Part: $\frac{1}{4}$</p>	<p>b.</p> 
<p>4a.</p>  <p>Shaded Part: $\frac{1}{5}$</p>	<p>b.</p>  <p>Each piece is $\frac{1}{5}$.</p>

Name _____

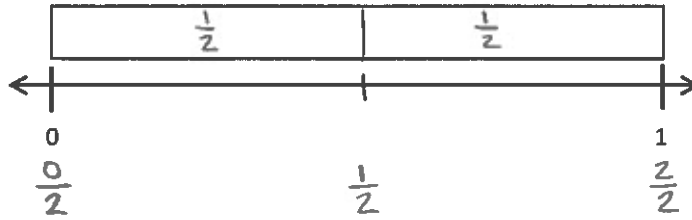
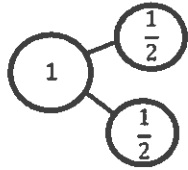
Date _____

Have a 1 in the numerator.

1. Draw a number bond for each fractional unit. Partition the fraction strip to show the unit fractions of the number bond. Use the fraction strip to help you label the fractions on the number line. Be sure to label the fractions at 0 and 1.

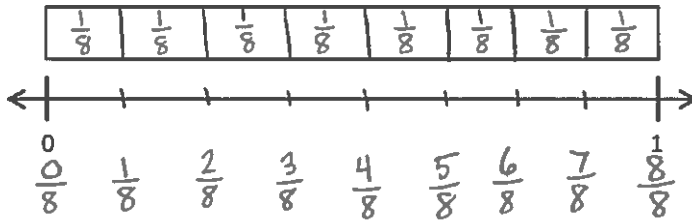
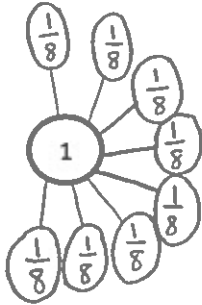
* two equal parts

a. Halves



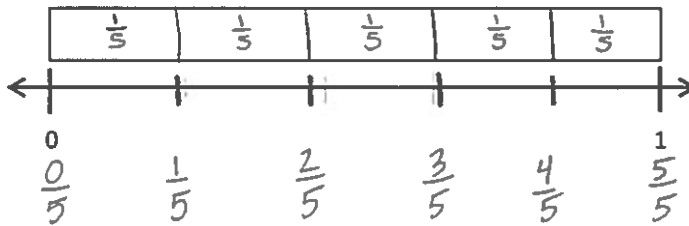
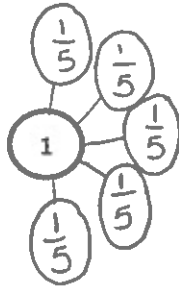
* eight equal parts

b. Eighths



* five equal parts

c. Fifths

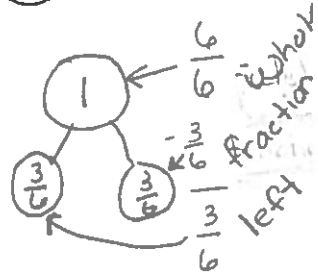
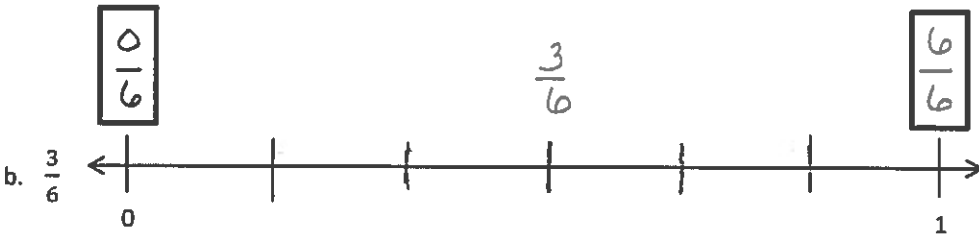
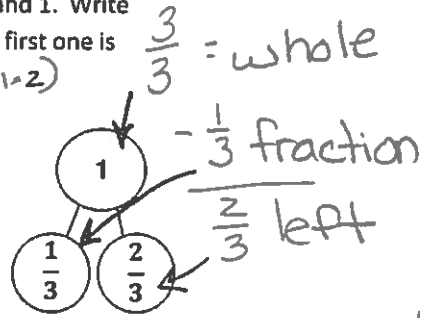
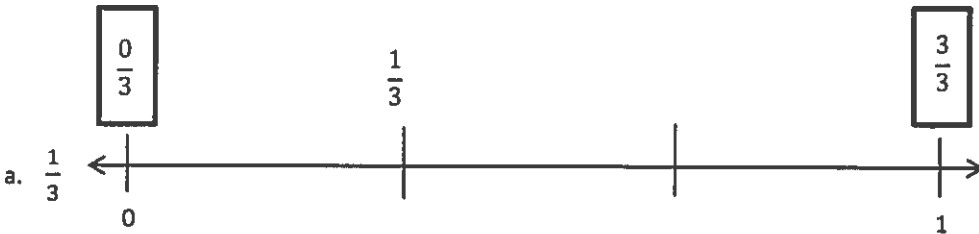


R. Shellman

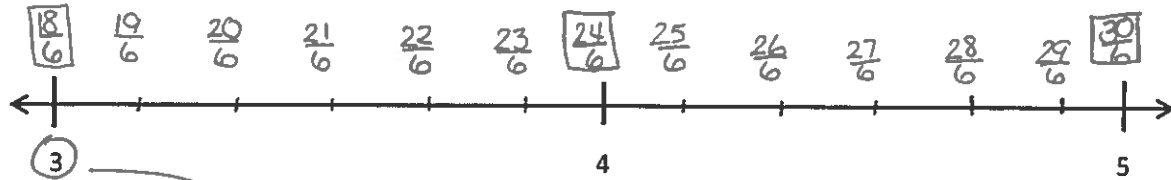
Name _____

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1. Estimate to label the given fractions on the number line. Be sure to label the fractions at 0 and 1. Write the fractions above the number line. Draw a number bond to match your number line. The first one is done for you.



2. Partition each whole into sixths. Label each fraction. Count up as you go. Box the fractions that are located at the same points as whole numbers.



*Be sure to note what number you start with

$$\frac{18}{6} = 3$$

3. Partition each whole into halves. Label each fraction. Count up as you go. Box the fractions that are located at the same points as whole numbers.

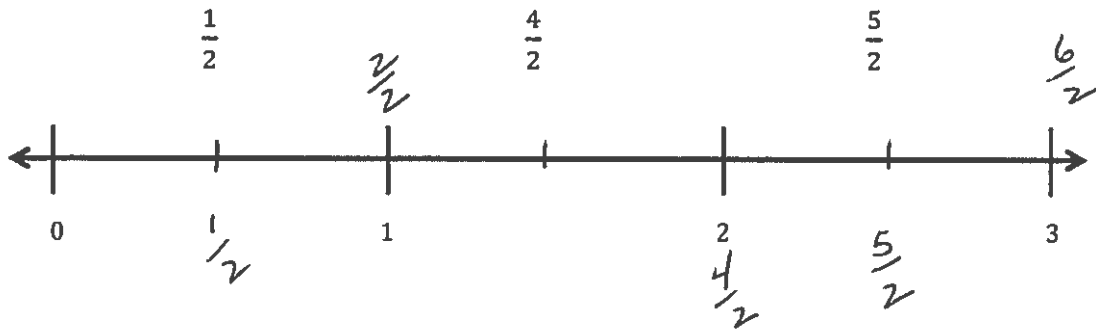


4. Draw a number line with endpoints 0 and 3. Label the wholes. Partition each whole into fifths. Label all the fractions from 0 to 3. Box the fractions that are located at the same points as whole numbers. Use a separate paper if you need more space.

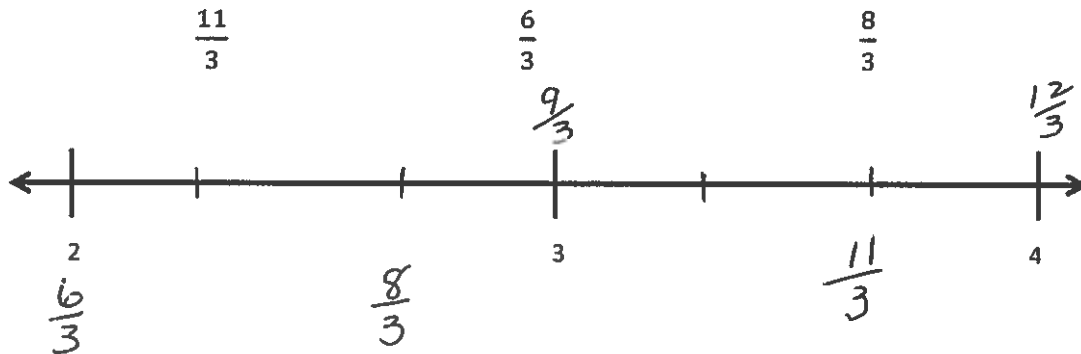
Name _____

Date _____

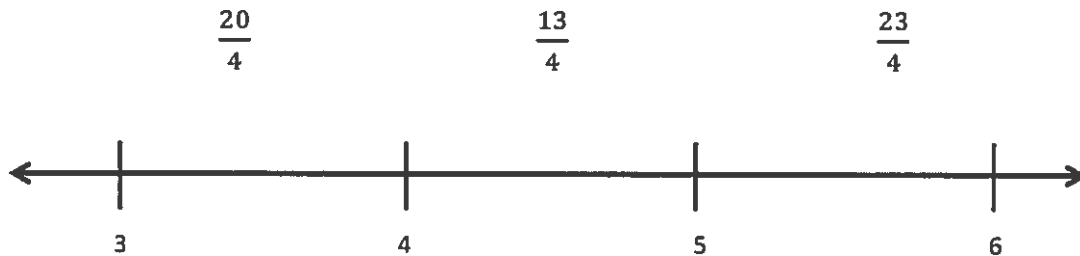
1. Locate and label the following fractions on the number line.



2. Locate and label the following fractions on the number line.

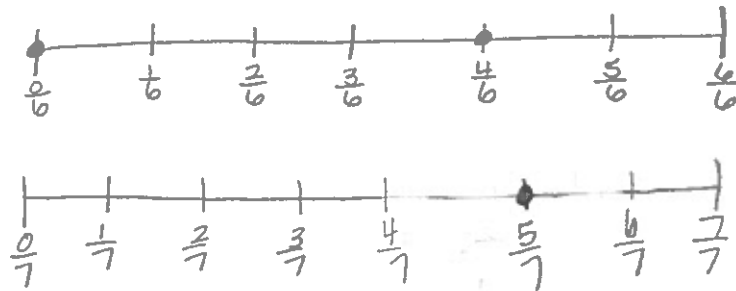


3. Locate and label the following fractions on the number line.



SS

6. Liz and Jay each have a piece of string. Liz's string is $\frac{4}{6}$ yard long, and Jay's string is $\frac{5}{7}$ yard long. Whose string is longer? Draw a number line to model the length of both strings. Explain the comparison using pictures, numbers, and words.



Jay's string is longer.

$$\frac{4}{6} < \frac{5}{7}$$

$\frac{5}{7}$ is closer to 1 whole than $\frac{4}{6}$.

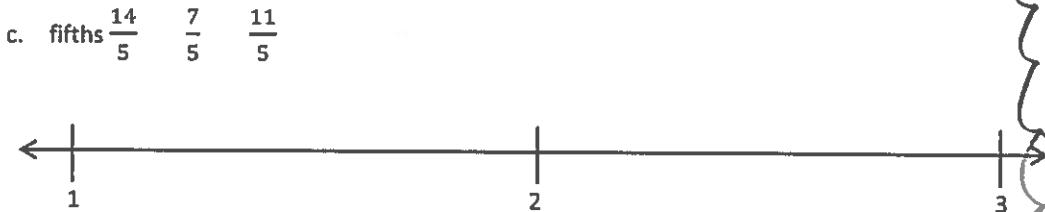
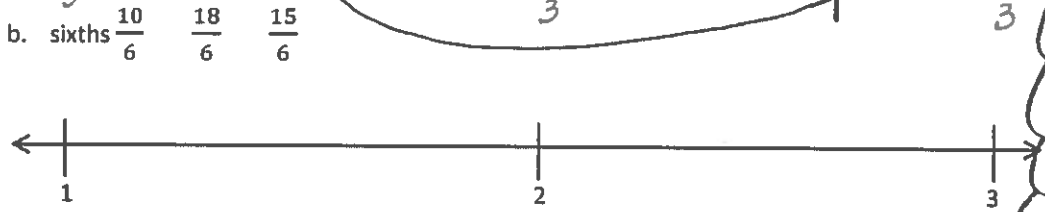
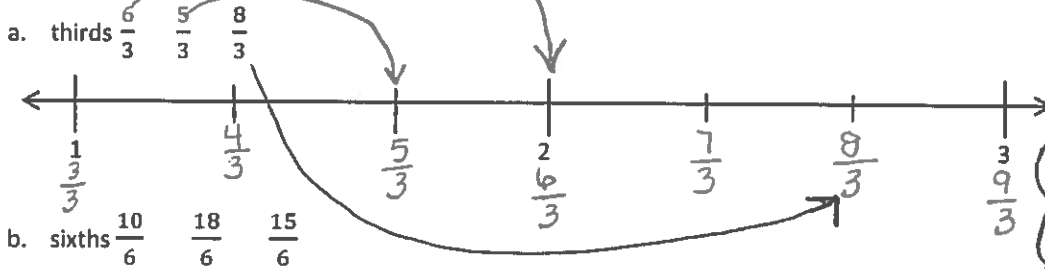
7. In a long jump competition, Wendy jumped $\frac{9}{10}$ meter, and Judy jumped $\frac{10}{9}$ meter. Draw a number line to model the distance of each girl's long jump. Who jumped the shorter distance? Explain how you know using pictures, numbers, and words.

8. Nikki has 3 pieces of yarn. The first piece is $\frac{5}{6}$ feet long, the second piece is $\frac{5}{3}$ feet long, and the third piece is $\frac{3}{2}$ feet long. She wants to arrange them from the shortest to the longest. Draw a number line to model the length of each piece of yarn. Write a number sentence using $<$, $>$, or $=$ to compare the pieces. Explain using pictures, numbers, and words.

Name _____

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1. Divide each number line into the given fractional unit. Then, place the fractions. Write each whole as a fraction.



2. Use the number lines above to compare the following fractions using $>$, $<$, or $=$.

$\frac{17}{6}$ ○ $\frac{15}{6}$

$\frac{7}{3}$ ○ $\frac{9}{3}$

$\frac{11}{5}$ ○ $\frac{8}{5}$

$\frac{4}{3}$ ○ $\frac{8}{6}$

$\frac{13}{6}$ ○ $\frac{8}{3}$

$\frac{11}{6}$ ○ $\frac{5}{3}$

$\frac{10}{6}$ ○ $\frac{3}{3}$

$\frac{6}{3}$ ○ $\frac{12}{6}$

$\frac{15}{5}$ ○ $\frac{5}{3}$

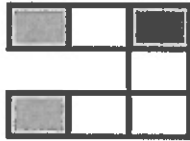
1a.
 Since we are using thirds, divide the space between each number into three equal pieces.
 Count and label each third starting at the first number located at the left of the number line.

1 = 3/3
 2 = 6/3
 3 = 9/3

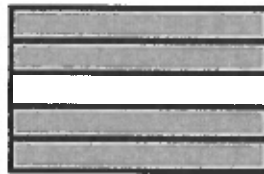
Name _____

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1. Label the shaded fraction. Draw 2 different representations of the same fractional amount.



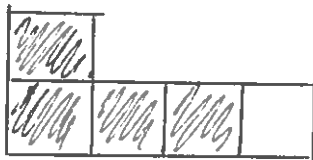
2. These two shapes both show $\frac{4}{5}$.



- a. Are the shapes equivalent? Why or why not?

The shapes are not equivalent because the size of the units and the size of the whole are not the same

- b. Draw two different representations of $\frac{4}{5}$ that are equivalent.



3. Diana ran a quarter mile straight down the street. Becky ran a quarter mile on a track. Who ran more? Explain your thinking.

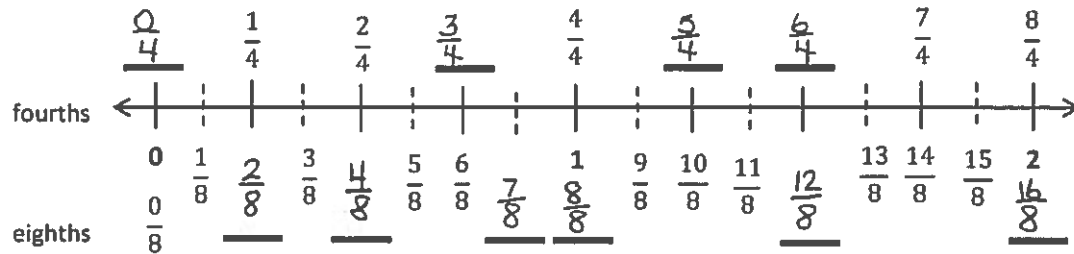
Diana _____

Becky 

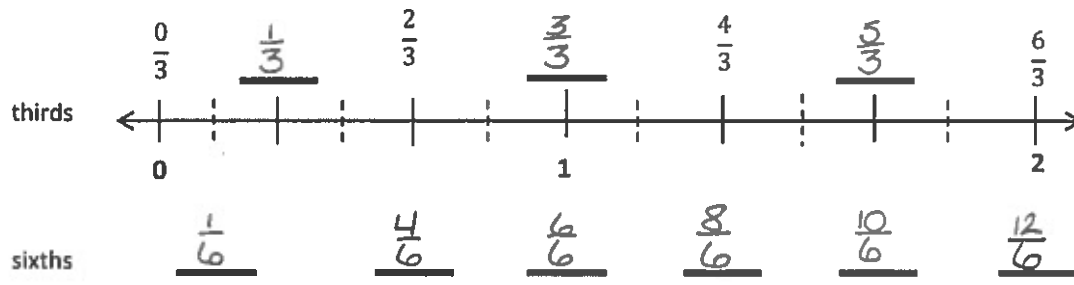
Handwritten initials/signature

Name _____ Date _____

1. Use the fractional units on the left to count up on the number line. Label the missing fractions on the blanks.



* Be sure to use the correct denominator and count up with the numerator.



2. Use the number lines above to:
- Color fractions equal to 1 purple.
 - Color fractions equal to 2 fourths yellow.
 - Color fractions equal to 2 blue.
 - Color fractions equal to 5 thirds green.
 - Write a pair of fractions that are equivalent.

_____ = _____

Ans

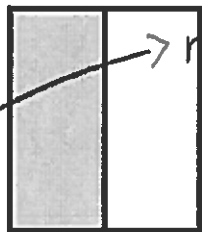
Name _____

Date _____

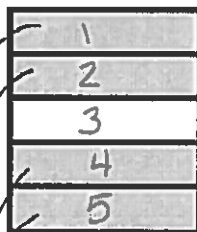
once you wrote all of the fractions on the line, find each fraction's equivalent.

1. Write the shaded fraction of each figure in the blank. Then, draw a line to match the equivalent fractions.

denominator tells how many sections make the whole $\frac{1}{2}$



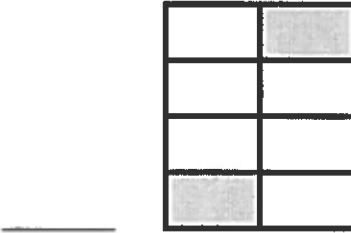
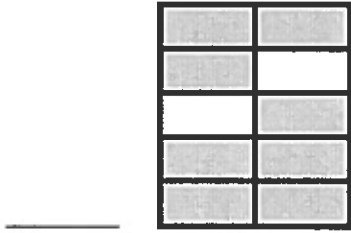
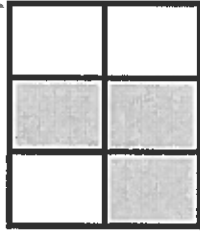
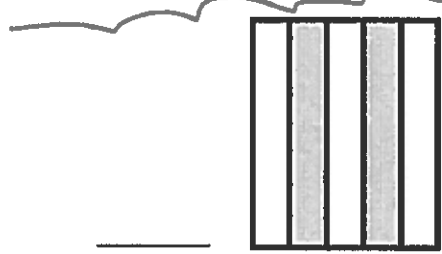
numerator tells how many pieces are shaded



this figure has 5 sections, so the denominator is 5 (bottom number)

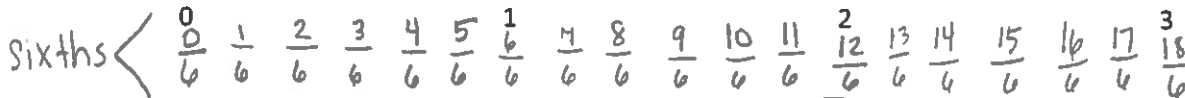
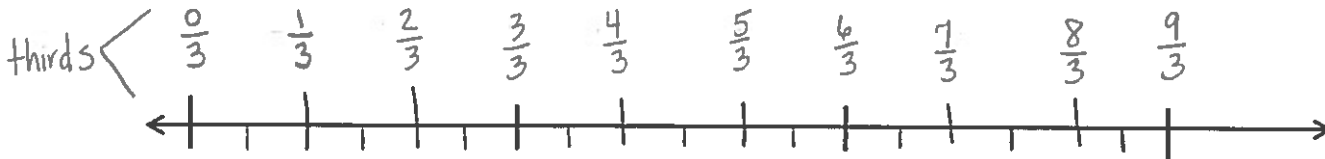
$\frac{4}{5}$

4 of the sections are shaded (the numerator) top number



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- On the number line above, use a colored pencil to divide each whole into thirds and label each fraction above the line.
- On the number line above, use a different colored pencil to divide each whole into sixths and label each fraction below the line.
- Write the fractions that name the same place on the number line.

$\frac{0}{3} = \frac{0}{6}$	$\frac{1}{3} = \frac{2}{6}$	$\frac{2}{3} = \frac{4}{6}$	$\frac{3}{3} = \underline{\quad}$	$\underline{\quad} = \underline{\quad}$
$\underline{\quad} = \underline{\quad}$	$\underline{\quad} = \underline{\quad}$	$\underline{\quad} = \underline{\quad}$	$\underline{\quad} = \underline{\quad}$	$\underline{\quad} = \underline{\quad}$

- Using your number line to help, name the fraction equivalent to $\frac{20}{6}$. Name the fraction equivalent to $\frac{12}{3}$. Draw the part of the number line that would include these fractions below and label it.

$$\frac{20}{6} = \frac{\quad}{3}$$

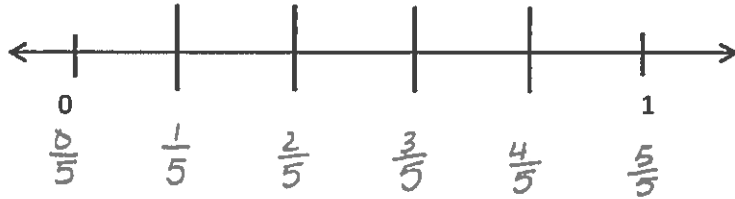
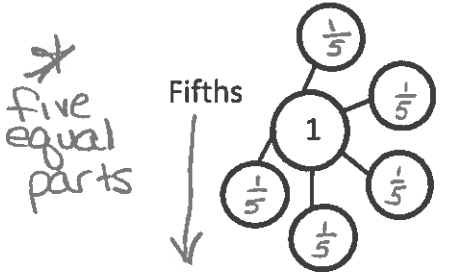
$$\frac{12}{3} = \frac{\quad}{6}$$

L. Shellman

Name _____

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1. Complete the number bond as indicated by the fractional unit. Partition the number line into the given fractional unit and label the fractions. Rename 0 and 1 as fractions of the given unit.



the denominator
(bottom number)
is 5.

Sixths



Sevenths



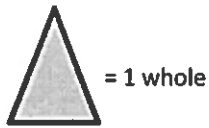
Eighths



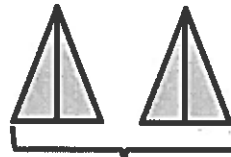
Name _____

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1. Label the following models as fractions inside the boxes.



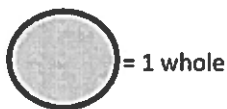
$$\frac{4}{4} = 1 \text{ whole}$$



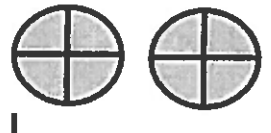
$$\frac{4}{2} = 2 \text{ wholes}$$



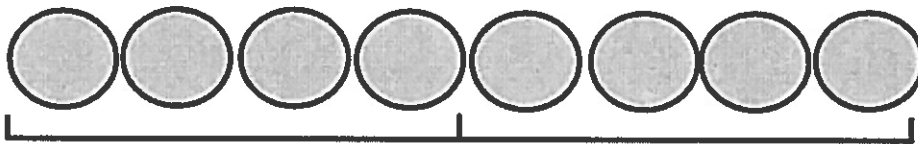
$$\frac{4}{1} = 4 \text{ wholes}$$



$$\frac{8}{8} = 1 \text{ whole}$$



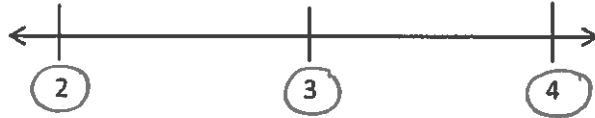
$$\frac{8}{4} = 2 \text{ wholes}$$



$$\frac{8}{1} = 8 \text{ wholes}$$

Think: multiplication, division, fact families, multiples

2. Write the fractions that name the whole numbers for each fractional unit. The first one has been done for you.

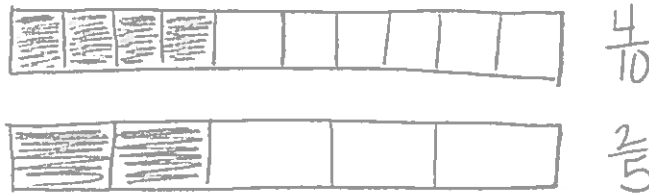


thirds	Think: $6 \div 3 = 2$ $\frac{6}{3}$	Think: $9 \div 3 = 3$ $\frac{9}{3}$	Think: $12 \div 3 = 4$ $\frac{12}{3}$
sevenths	$14 \div 7 = 2$ $\frac{14}{7}$ $2 \times 7 = 14$	$21 \div 7 = 3$ $\frac{21}{7}$ $3 \times 7 = 21$	$28 \div 7 = 4$ $\frac{28}{7}$ $4 \times 7 = 28$
eighths	$16 \div 8 = 2$ $\frac{16}{8}$ $2 \times 8 = 16$	$24 \div 8 = 3$ $\frac{24}{8}$ $3 \times 8 = 24$	$32 \div 8 = 4$ $\frac{32}{8}$ $4 \times 8 = 32$
tenths	$20 \div 10 = 2$ $\frac{20}{10}$ $2 \times 10 = 20$	$30 \div 10 = 3$ $\frac{30}{10}$ $3 \times 10 = 30$	$40 \div 10 = 4$ $\frac{40}{10}$ $4 \times 10 = 40$

3. Rider dribbles the ball down $\frac{1}{3}$ of the basketball court on the first day of practice. Each day after that, he dribbles $\frac{1}{3}$ of the way more than he did the day before. Draw a number line to represent the court. Partition the number line to represent how far Rider dribbles on Day 1, Day 2, and Day 3 of practice. What fraction of the way does he dribble on Day 3?

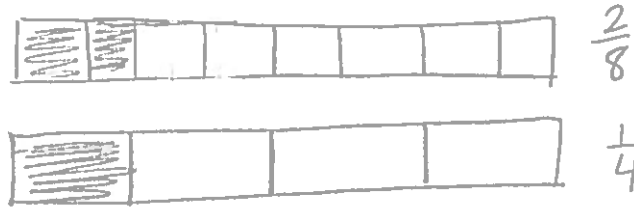
3. When the whole is the same, why does it take 4 copies of 1 tenth to equal 2 copies of 1 fifth? Draw a model to support your answer.

** important **
← or parts
← parts



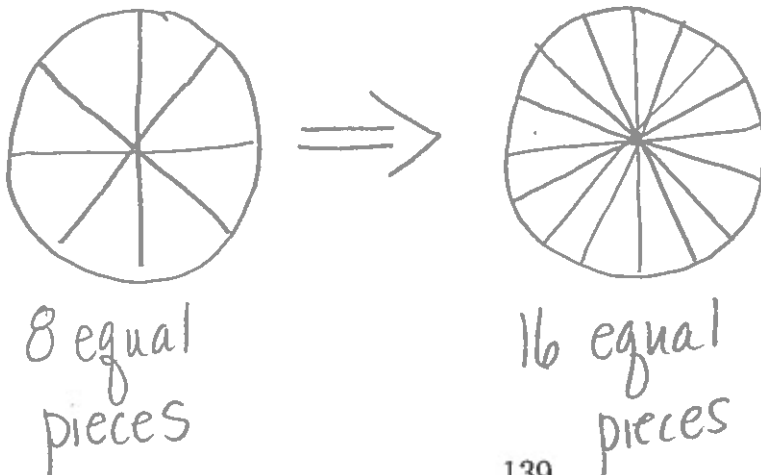
$$\frac{4}{10} = \frac{2}{5}$$

4. When the whole is the same, how many eighths does it take to equal 1 fourth? Draw a model to support your answer.



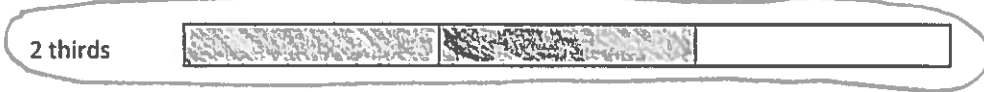
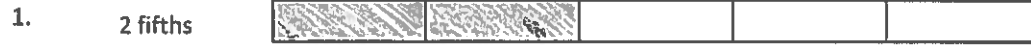
$$\frac{2}{8} = \frac{1}{4}$$

5. Mr. Pham cuts a cake into 8 equal slices. Then, he cuts every slice in half. How many of the smaller slices does he have? Use words and numbers to explain your answer.



Name _____ Date _____

Shade the models to compare the fractions. Circle the larger fraction for each problem.



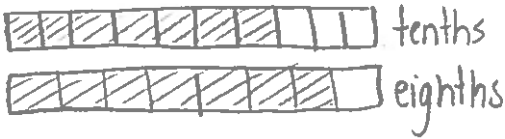
* which one is shaded more?



Draw your own models to compare the following fractions.

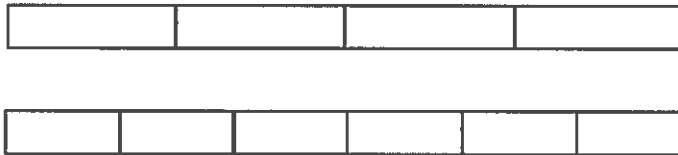
6. $\frac{7}{10}$  $\frac{7}{8}$

7. $\frac{4}{6}$  $\frac{4}{9}$



★ Remember that when comparing fractions, your wholes must be the same size and shape.

8. For an art project, Michello used $\frac{3}{4}$ of a glue stick. Yamin used $\frac{3}{6}$ of an identical glue stick. Who used more of their glue stick? Use the model below to support your answer. Be sure to label 1 whole as 1 glue stick.



9. After gym class, Jahsir drank 2 eighths of a bottle of water. Jade drank 2 fifths of an identical bottle of water. Who drank less water? Use the model below to support your answer.

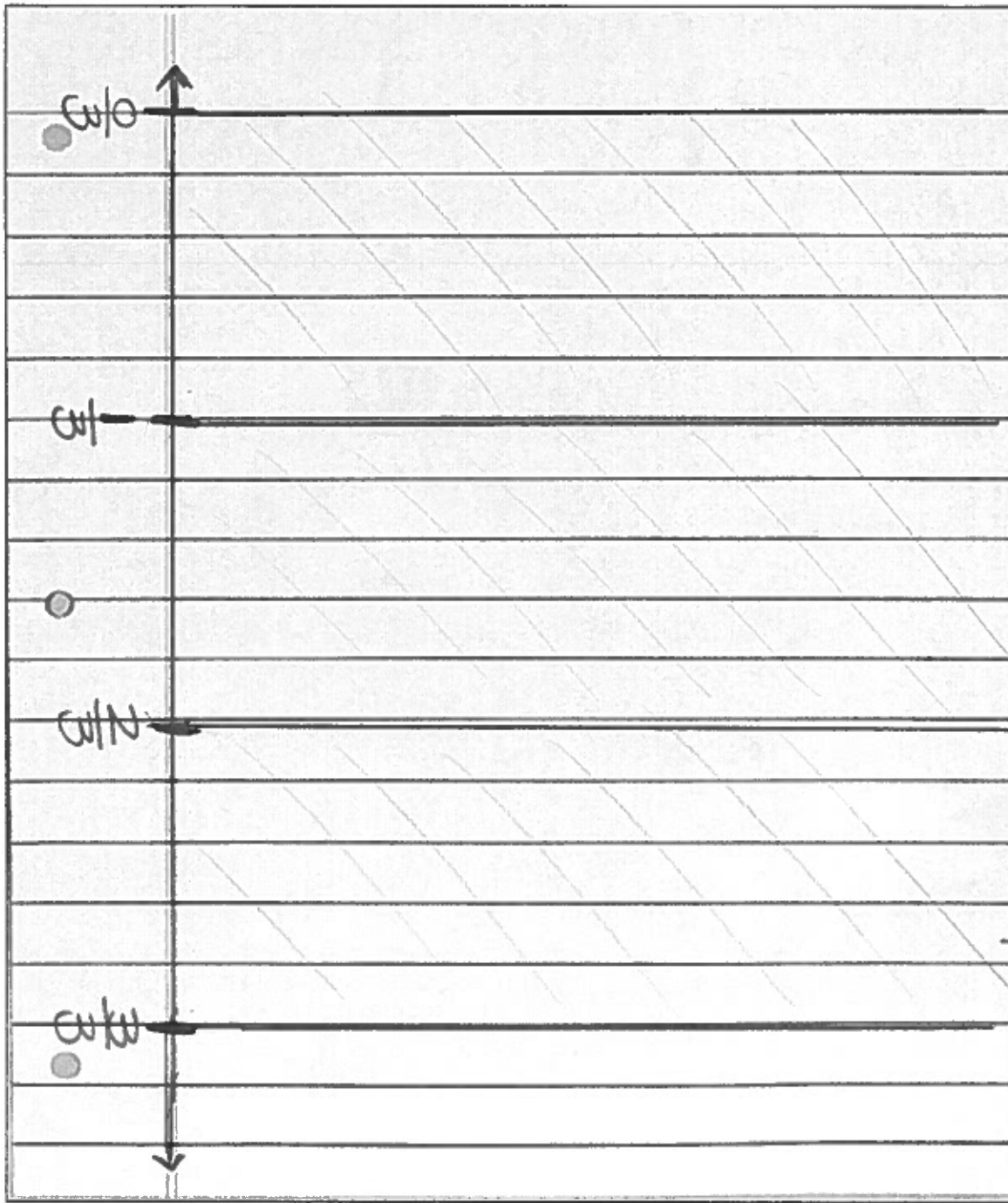


A. Shilina

Name _____

Date _____

Describe step by step the experience you had of partitioning a length into equal units by simply using a piece of notebook paper and a straight edge. Illustrate the process.



lined paper

Step 1: Draw a number line and mark the 0 endpoint,
 Step 2: Make your tick marks equally spaced.
 Hint: Depending on the number of equal parts you are creating, draw 1 less tick mark. Ex. $\frac{3}{4}$ equal parts \rightarrow 2 tick marks
 Step 3: Label tick marks
 Step 4: Extend the tick marks to the top of the paper.
 A.C.

Step 5:
 Now you have equal parts.