Learning Recovery
Grade 4 Summer Packet

Grade 4 Mission 5 Lessons 1-21 (21 lessons)

Equivalent Fractions

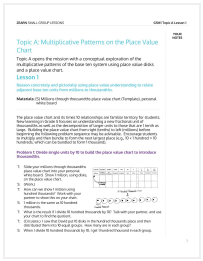
Grade 4 Mission 6 Lessons 1-16 (15 lessons*)

Decimal Fractions

Students should complete one of the two sections below for each Mission:

Section One
Complete with all digital lessons

- Student Notes
- Exit Tickets



Section Two
If internet access is not available, complete paper-based work

- Problem Sets
- Homework

*Some lessons omitted from Zearn Math's Digital Lesson sequence - visit our Help Center to learn more

Mission 5: Equivalent Fractions

Section One: Student Notes and Exit Tickets

To complete with all digital lessons

Are you ready to

Mission 5:

Equivalent Fractions

Name:_____

Printed in the U.S.A.

This book may be purchased from the publisher at **zearn.org.**

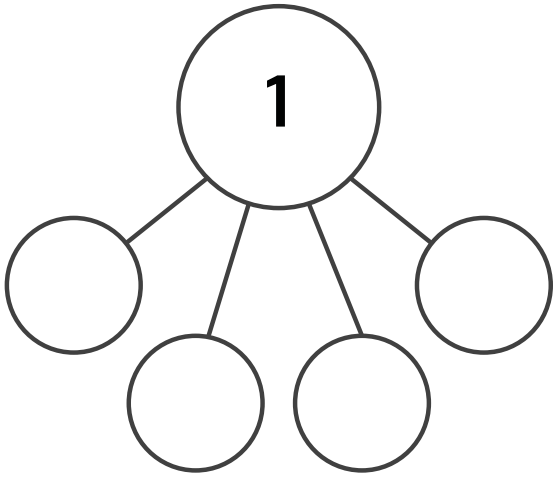
Fourth Edition

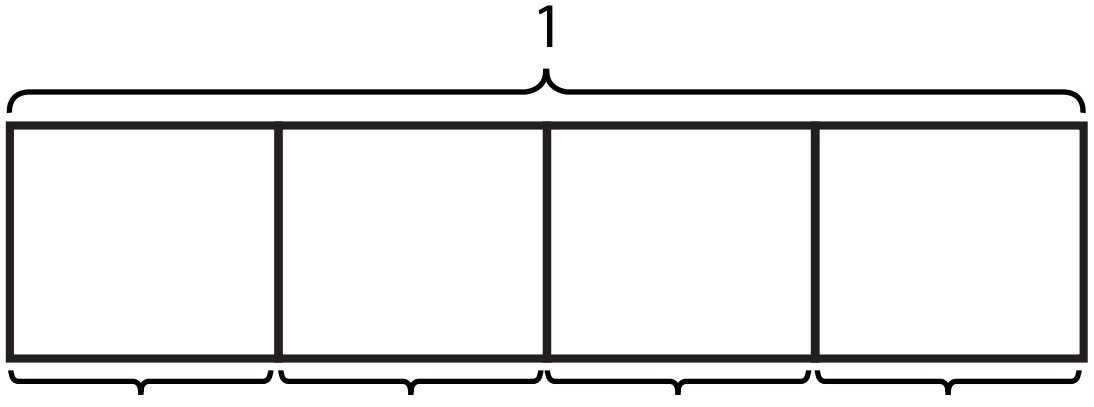
Lesson 1 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Complete the number bond and write the number sentence to match the tape diagram.





2. Draw and label tape diagrams to model each number sentence.

a. $1 = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

b. $\frac{5}{6} = \frac{2}{6} + \frac{2}{6} + \frac{1}{6}$

Lesson 2 G:4 M:5	Decompose and Group
	ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 How can you decompose $\frac{7}{8}$ into two parts?

SHOW YOUR WORK

$$\frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$$

$$\frac{7}{8} = \underline{\quad} + \underline{\quad}$$

EXTRA WORKSPACE

Lesson 2 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

Step 1: Draw and shade a tape diagram of the given fraction.

Step 2: Record the decomposition of the fraction in three different ways using number sentences.

$$\frac{4}{7}$$

TAPE DIAGRAM

DECOMPOSITIONS

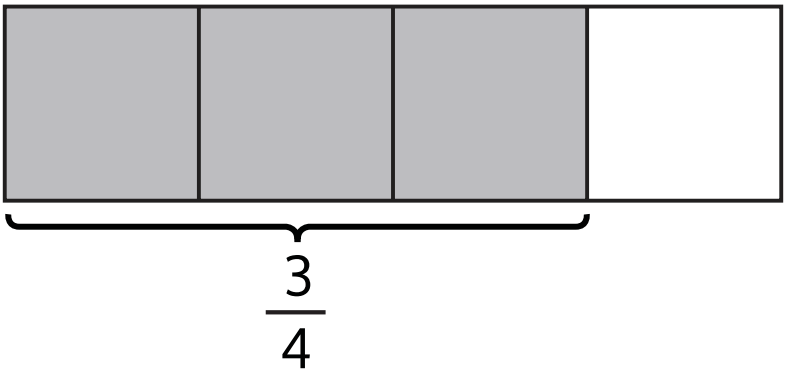
Lesson 3 G:4 M:5	Decompose and Multiply
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Decompose $\frac{3}{4}$ as the sum of unit fractions.

Then, express that addition sentence using multiplication.



$\frac{3}{4} = \_\_\_ + \_\_\_ + \_\_\_$

$\frac{3}{4} = \_\_\_ \times \_\_\_$

EXTRA WORKSPACE

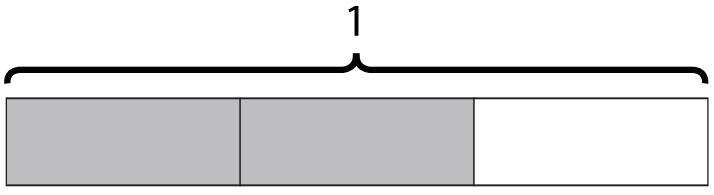
Lesson 3 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

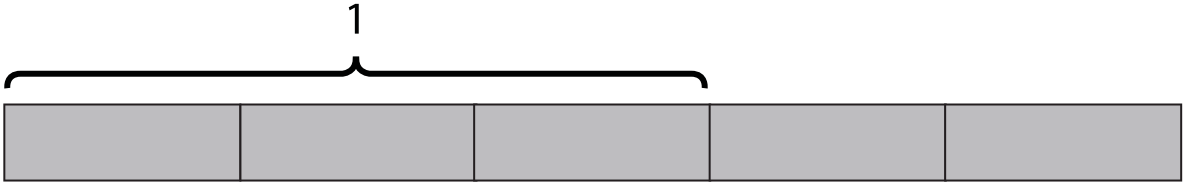
Complete: ☐ **Class:**_____

1. Decompose each fraction modeled by a tape diagram as a sum of unit fractions. Write the equivalent multiplication sentence.

a.



b.



2. Draw a tape diagram and record the given fraction's decomposition into unit fractions as a multiplication sentence.

SHOW YOUR WORK

$\frac{6}{9}$

Lesson 4 G:4 M:5	Different Decompositions
	ZEARN STUDENT NOTES

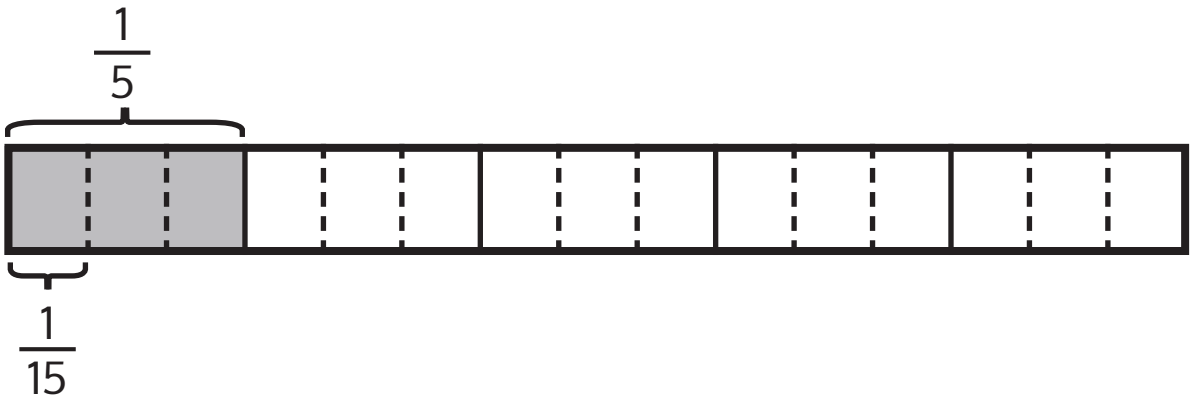
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Use the tape diagram to show the decomposition of $\frac{1}{3}$ as the sum of smaller unit fractions.

SHOW YOUR WORK

2 Write an addition sentence and a multiplication sentence to show how many fifteenths it takes to make 1 fifth.



SOLVE

$\frac{1}{5} = \_\_ + \_\_ + \_\_ = \_\_$

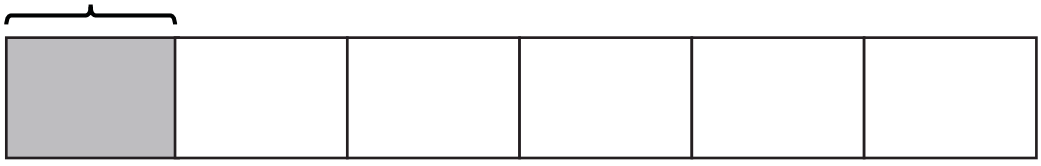
$\frac{1}{5} = \_\_ \times \_\_ = \_\_$

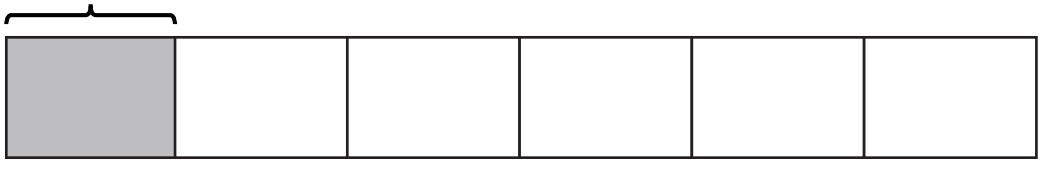
Lesson 4 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. The total length of the tape diagram represents 1 whole. Decompose the shaded unit fraction as the sum of smaller unit fractions in at least two different ways.





2. Draw a tape diagram to prove the following statement.

SHOW YOUR WORK

$$\frac{2}{3} = \frac{4}{6}$$

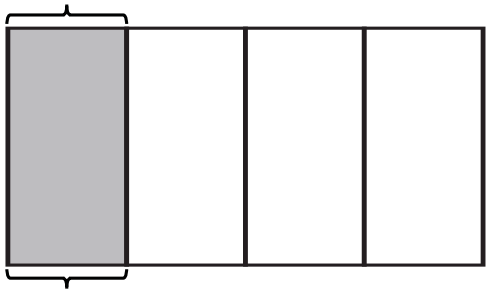
Lesson 5 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

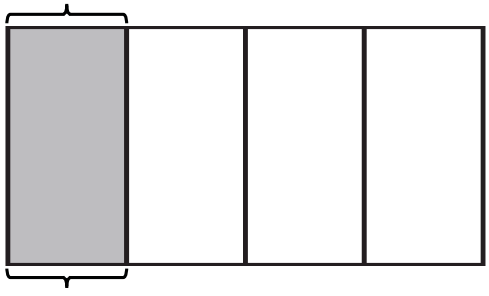
Complete: ☐ **Class:**_____

1. Draw horizontal lines to decompose each rectangle into the number of rows as indicated. Use the model to give the shaded area as both a sum of unit fractions and as a multiplication sentence.

a. 2 rows



b. 3 rows



2. Draw an area model to show the decomposition represented by the number sentence below. Represent the decomposition as a sum of unit fractions and as a multiplication sentence.

SHOW YOUR WORK

$$\frac{3}{5} = \frac{6}{10}$$

Lesson 6 G:4 M:5	Area Model – Breakdown! ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Draw an area model to show that $\frac{2}{3} = \frac{8}{12}$.

SHOW YOUR WORK

2 Draw an area model to represent 5 thirds.

Then partition it into sixths to find an equivalent fraction.

SHOW YOUR WORK

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

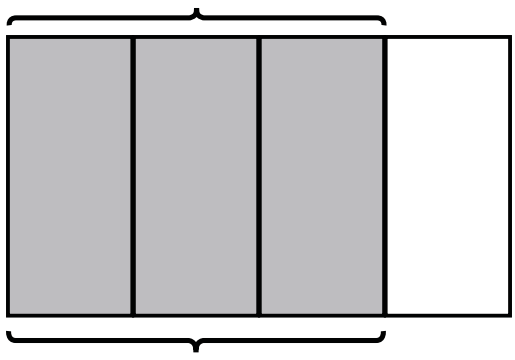
Lesson 6 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. The rectangle below represents 1 whole. Draw horizontal lines to decompose the rectangle into eighths. Use the model to give the shaded area as a sum and as a product of unit fractions. Use parentheses to show the relationship between the number sentences.

SHOW YOUR WORK



2. Draw an area model to show the decomposition represented by the number sentence below.

SHOW YOUR WORK

$$\frac{4}{5} = \frac{8}{10}$$

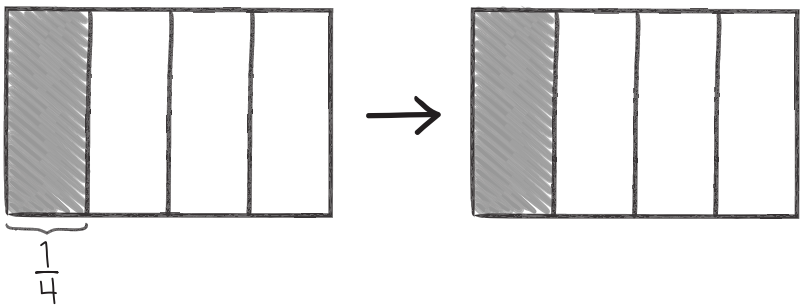
Lesson 7 G:4 M:5	Same Area
	ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Find an equivalent fraction to $\frac{1}{4}$ that has twice as many units. Use the area model and multiplication.

Area Model:



Multiplication: $\frac{1}{4} = \frac{1 \times \_\_\_\_}{4 \times \_\_\_\_} = \_\_\_\_$

2 Rename $\frac{1}{3}$ using ninths.

Verify that the fraction you made is equivalent to $\frac{1}{3}$ by drawing an area model.

Multiplication: $\frac{1}{3} = \frac{1 \times \_\_\_\_}{3 \times \_\_\_\_} = \frac{\_\_\_\_}{\_\_\_\_}$

Area Model:

Lesson 7 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Draw two different area models to represent 1 fourth by shading.

   Decompose the shaded fraction into (a) eighths and (b) twelfths.

   Use multiplication to show how each fraction is equivalent to 1 fourth.

a.	b.

Lesson 8 G:4 M:5	Multiply for Equality? ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Use multiplication to prove that $\frac{3}{5} = \frac{6}{10}$.

Then, draw an area model to confirm your number sentence.

Multiplication: $\frac{3}{5} = \frac{3 \times \_\_\_\_}{5 \times \_\_\_\_} = \_\_\_\_$

Area model:

EXTRA WORKSPACE

Lesson 8 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Use multiplication to create an equivalent fraction for the fraction below.

SHOW YOUR WORK

$$\frac{2}{5}$$

2. Determine if the following is a true number sentence. If needed, correct the statement by changing the right-hand side of the number sentence.

SHOW YOUR WORK

$$\frac{3}{4} = \frac{9}{8}$$

Lesson 9 G:4 M:5	Same Fraction, Fewer Parts
	ZEARN STUDENT NOTES

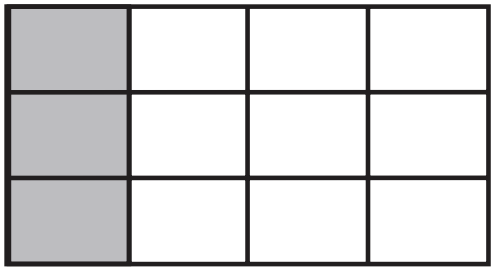
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Compose the shaded fraction into an equivalent fraction by circling the new unit.

Then, write a division sentence based on your composition.

SHOW YOUR WORK



$$\frac{\quad}{\quad} = \frac{\quad \div \quad}{\quad \div \quad} = \frac{\quad}{\quad}$$

2 Draw area models to show $\frac{2}{6}$ and $\frac{4}{12}$.

Then, find equivalent fractions.

SHOW YOUR WORK

$\frac{2}{6} = \_\_\_\_$

$\frac{4}{12} = \_\_\_\_$

EXTRA WORKSPACE

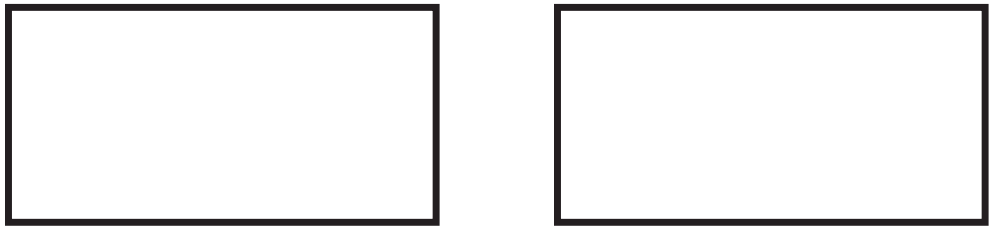
Lesson 9 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. In the first area model, show $\frac{3}{6}$. In the second area model, show $\frac{6}{12}$. Show how both fractions can be composed, or renamed, as the same unit fraction.

SHOW YOUR WORK



2. Express the equivalent fractions in a number sentence using division.

DIVISION EQUATIONS

_____ _____

Lesson 10 G:4 M:5	Same Fraction, Fewest Parts
	ZEARN STUDENT NOTES

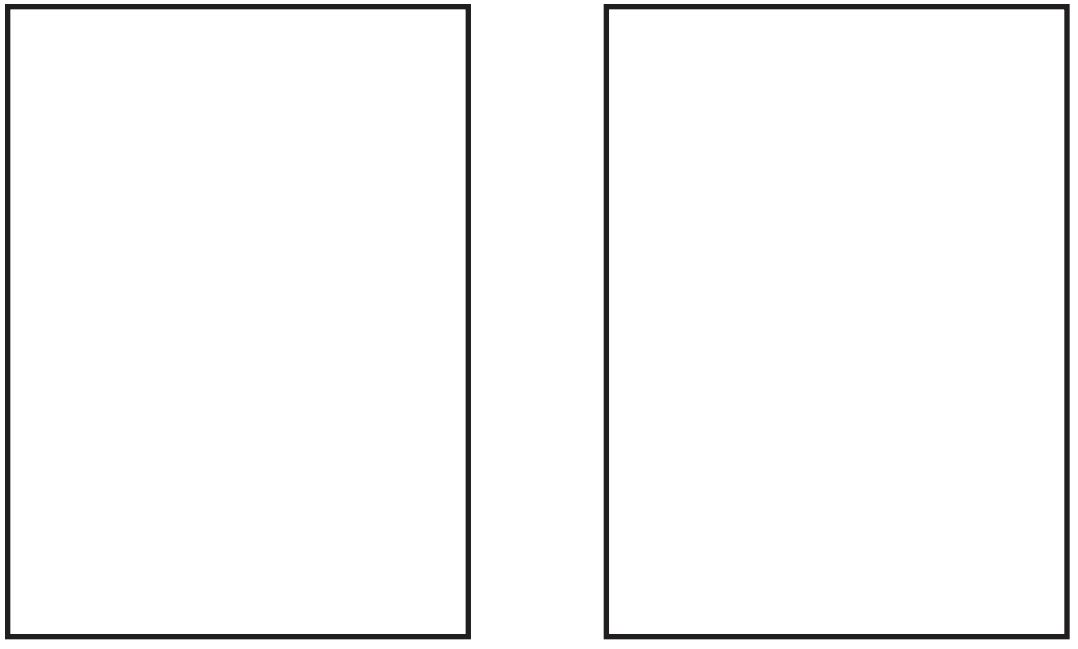
Name:_____ Date:_____

Complete: ☐ Class:_____

1 Draw an area model to represent $\frac{8}{12}$.

Then compose a fraction equivalent to $\frac{8}{12}$, with larger fractional units.

SHOW YOUR WORK



$\frac{8}{12}$

2 Rename $\frac{6}{12}$ with the largest units possible without using an area model.

Express the equivalence using a division number sentence.

SHOW YOUR WORK

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

EXTRA WORKSPACE

Lesson 10 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Draw an area model to show why the fractions are equivalent.

Show the equivalence in a number sentence using division.

SHOW YOUR WORK

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

Lesson 11 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Partition a number line from 0 to 1 into sixths. Decompose $\frac{2}{6}$ into 4 equal lengths.

2. Write a number sentence using multiplication to show what fraction represented on the number line is equivalent to $\frac{2}{6}$.

3. Write a number sentence using division to show what fraction represented on the number line is equivalent to $\frac{2}{6}$.

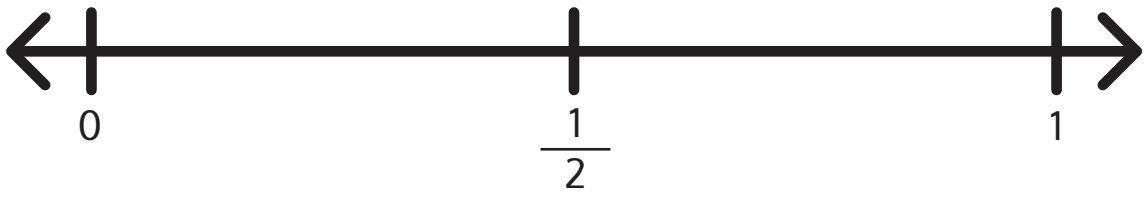
Lesson 12 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Plot the following points on the number line without measuring.

a. $\frac{8}{10}$ **b.** $\frac{3}{5}$ **c.** $\frac{1}{4}$



2. Use the number line in Problem 1 to compare the fractions by writing >, <, or = in the circles.

a. $\frac{1}{4}$ ◯ $\frac{1}{2}$ **b.** $\frac{8}{10}$ ◯ $\frac{3}{5}$

c. $\frac{1}{2}$ ◯ $\frac{3}{5}$ **d.** $\frac{1}{4}$ ◯ $\frac{8}{10}$

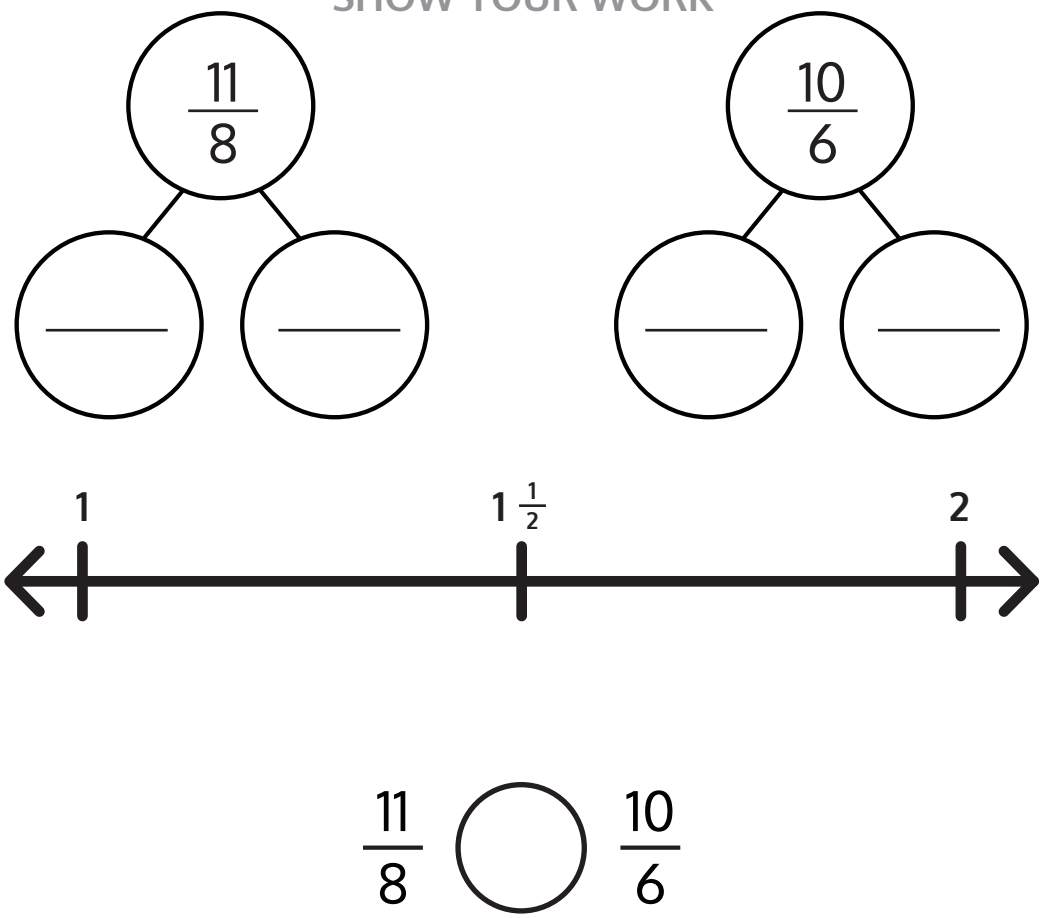
Lesson 13 G:4 M:5	Benchmark to Compare
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Compare $\frac{11}{8}$ and $\frac{10}{6}$.

SHOW YOUR WORK



EXTRA WORKSPACE

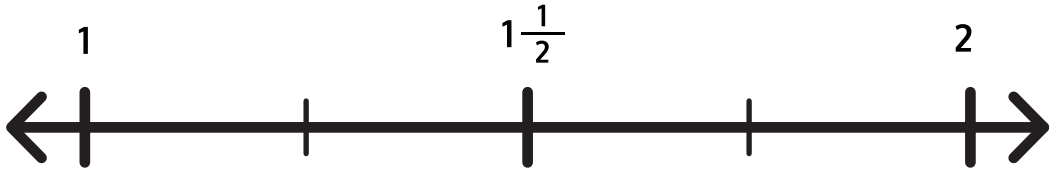
Lesson 13 G:4 M:5	EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

1. Place the following fractions on the number line given.

a. $\frac{5}{4}$ **b.** $\frac{10}{7}$ **c.** $\frac{16}{9}$



2. Compare the fractions using >, <, or =.

a. $\frac{5}{4}$ ◯ $\frac{10}{7}$ **b.** $\frac{5}{4}$ ◯ $\frac{16}{9}$

c. $\frac{16}{9}$ ◯ $\frac{10}{7}$

Lesson 14 G:4 M:5	Make the Same to Compare
	ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Use tape diagrams to model and compare $\frac{3}{5}$ and $\frac{7}{10}$.

SHOW YOUR WORK

$\frac{3}{5}$  $\frac{3 \times \_\_\_}{5 \times \_\_\_} = \_\_\_$

$\frac{7}{10}$ 

Common denominator: _____ ◯ _____

$\frac{3}{5}$ ◯ $\frac{7}{10}$

EXTRA WORKSPACE

Lesson 14 G:4 M:5	EXIT TICKET

Name:_____ Date:_____

Complete: ☐ Class:_____

1. Draw tape diagrams to compare the following fractions:

$\frac{2}{5} \bigcirc \frac{3}{10}$

2. Use a number line to compare the following fractions:

$\frac{4}{3} \bigcirc \frac{7}{6}$

Lesson 15 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Draw an area model for each pair of fractions, and use it to compare the two fractions by writing >, <, or = in the circle.

a. $\frac{3}{4}$ ◯ $\frac{4}{5}$

b. $\frac{2}{6}$ ◯ $\frac{3}{5}$

Lesson 16 G:4 M:5	Like Units Make It Work
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 5 sixths – 4 sixths = _____

SHOW YOUR WORK

_____ – _____ = _____

EXTRA WORKSPACE

Lesson 16 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Solve. Use a number bond to decompose the difference. Record your final answer as a mixed number.

$$\frac{16}{9} - \frac{5}{9}$$

2. Solve. Use a number bond to decompose the sum. Record your final answer as a mixed number.

$$\frac{5}{12} + \frac{10}{12}$$

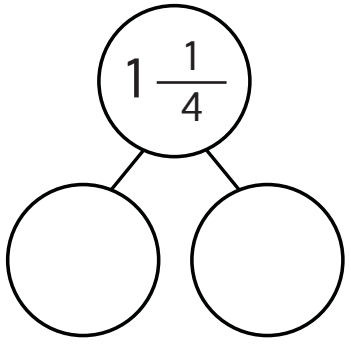
Lesson 17 G:4 M:5	Whole Use
	ZEARN STUDENT NOTES

Name:_____ Date:_____

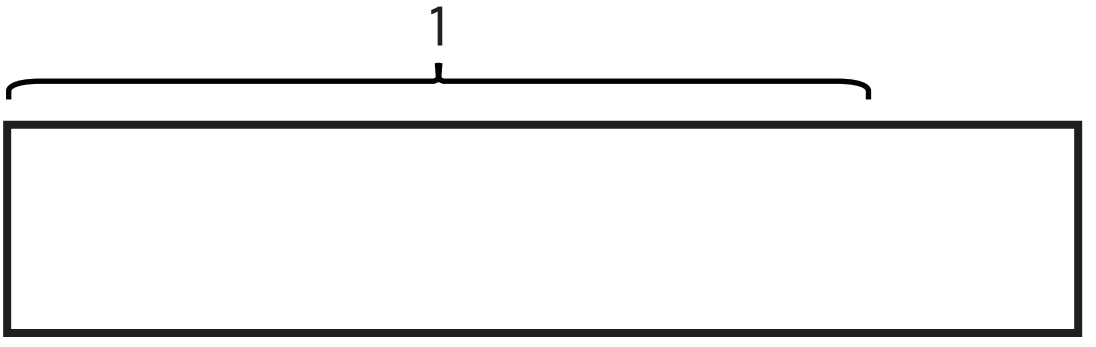
Complete: ☐ Class:_____

1 Solve $1\frac{1}{4} - \frac{3}{4}$.

SHOW YOUR WORK



$1\frac{1}{4} = \_\_\_\_ + \_\_\_\_ = \_\_\_\_$



$1\frac{1}{4} - \frac{3}{4} = \_\_\_\_$

EXTRA WORKSPACE

Lesson 17 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Solve. Model the problem with a number line, and solve by both counting up and subtracting.

$1 - \frac{2}{5}$

2. Find the difference in two ways. Use a number bond to show the decomposition.

$1\frac{2}{7} - \frac{5}{7}$

Lesson 18 G:4 M:5	Three's Company
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 $\frac{1}{6} + \frac{4}{6} + \frac{2}{6}$

SHOW YOUR WORK

2 Mrs. Cashmore bought a melon that weighed $1\frac{3}{5}$ pounds. She cut a piece that weighed $\frac{4}{5}$ pound and gave it to her neighbor. She then had $\frac{1}{5}$ pound as a snack.

How much of the melon is left?

DRAW

SOLVE

Lesson 18 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Solve the following problems. Use number bonds to help you.

a. $\frac{5}{9} + \frac{2}{9} + \frac{4}{9}$

b. $1 - \frac{5}{8} - \frac{1}{8}$

Lesson 19 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

Use the RDW process to solve.

1. Mrs. Smith took her bird to the vet. Tweety weighed $1\frac{3}{10}$ pounds. The vet said that Tweety weighed $\frac{4}{10}$ pound more last year. How much did Tweety weigh last year?

SHOW YOUR WORK

2. Hudson picked $1\frac{1}{4}$ baskets of apples. Suzy picked 2 baskets of apples. How many more baskets of apples did Suzy pick than Hudson?

SHOW YOUR WORK

Lesson 20 G:4 M:5	Like Units, Like Sum
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 $\frac{1}{2} + \frac{1}{8}$. Use the tape diagrams to help you solve.

SHOW YOUR WORK

$\frac{1}{2}$ 

$\frac{1}{8}$ 

$\frac{1}{2} + \frac{1}{8} =$ _____ + _____ = _____

EXTRA WORKSPACE

Lesson 20 G:4 M:5	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Draw a number line to model the addition. Solve, and then write a complete number sentence.

SHOW YOUR WORK

$$\frac{5}{8} + \frac{2}{4}$$

2. Solve without drawing a model.

SHOW YOUR WORK

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

Lesson 21 G:4 M:5	Sum It Up
	ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Draw a number bond to show $\frac{9}{6}$ as a whole and parts.

Then, use your number bond to write $\frac{9}{6}$ as a mixed number.

SHOW YOUR WORK

$\frac{9}{6}$ = _____ + _____ = _____

EXTRA WORKSPACE

Lesson 21 G:4 M:5	EXIT TICKET

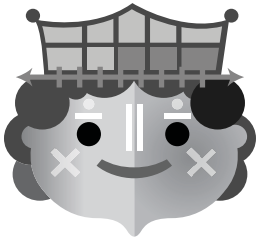
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Solve. Write a complete number sentence. Use a number bond to write each sum as a mixed number. Use a model if needed.

a. $\frac{1}{4} + \frac{7}{8}$

b. $\frac{2}{3} + \frac{7}{12}$



Congratulations!

You completed

Grade 4 Mission 5

Equivalent Fractions

Name ..... Date .....

Zearned it!

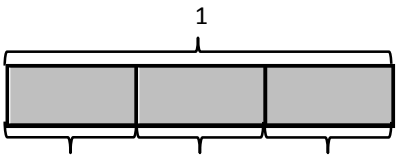
Section Two: Problem Sets and Homework

To complete if internet access is not available

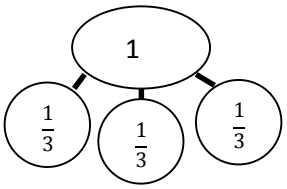
Name _____ Date _____

1. Draw a number bond, and write the number sentence to match each tape diagram. The first one is done for you.

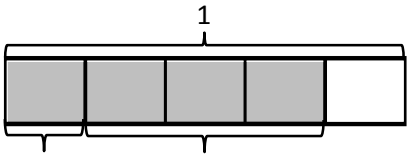
a.



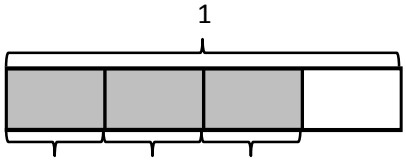
$1 = \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$



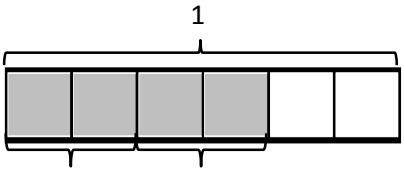
b.



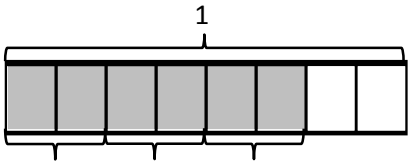
c.



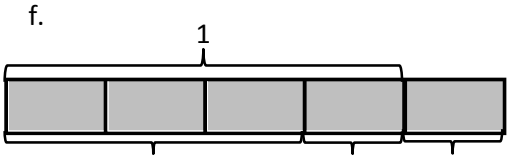
d.



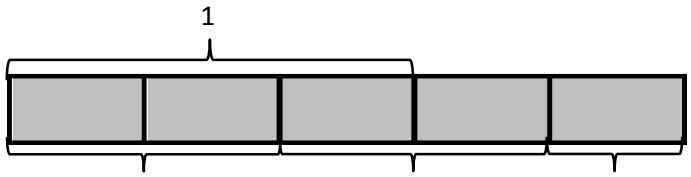
e.



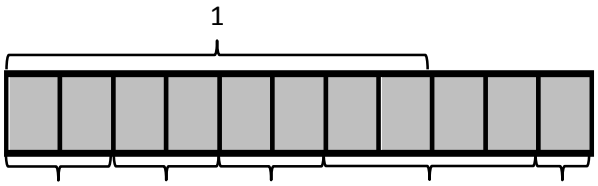
f.



g.



h.



2. Draw and label tape diagrams to model each decomposition.

a. $1 = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$

b. $\frac{4}{5} = \frac{1}{5} + \frac{2}{5} + \frac{1}{5}$

c. $\frac{7}{8} = \frac{3}{8} + \frac{3}{8} + \frac{1}{8}$

d. $\frac{11}{8} = \frac{7}{8} + \frac{1}{8} + \frac{3}{8}$

e. $\frac{12}{10} = \frac{6}{10} + \frac{4}{10} + \frac{2}{10}$

f. $\frac{15}{12} = \frac{8}{12} + \frac{3}{12} + \frac{4}{12}$

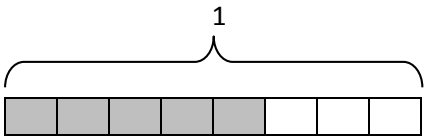
g. $1\frac{2}{3} = 1 + \frac{2}{3}$

h. $1\frac{5}{8} = 1 + \frac{1}{8} + \frac{1}{8} + \frac{3}{8}$

Name _____ Date _____

1. Step 1: Draw and shade a tape diagram of the given fraction.
   Step 2: Record the decomposition as a sum of unit fractions.
   Step 3: Record the decomposition of the fraction two more ways.
   (The first one has been done for you.)

   a. $\frac{5}{8}$



$\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$ $\frac{5}{8} = \frac{2}{8} + \frac{2}{8} + \frac{1}{8}$ $\frac{5}{8} = \frac{2}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

   b. $\frac{9}{10}$

   c. $\frac{3}{2}$

2. Step 1: Draw and shade a tape diagram of the given fraction.
   Step 2: Record the decomposition of the fraction in three different ways using number sentences.

   a. $\frac{7}{8}$

   b. $\frac{5}{3}$

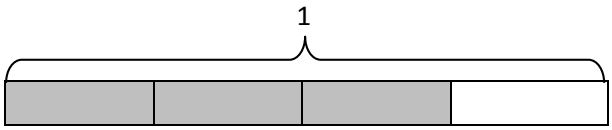
   c. $\frac{7}{5}$

   d. $1\frac{1}{3}$

Name _____ Date _____

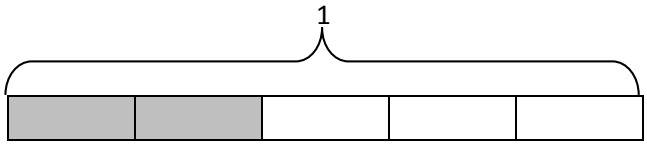
1. Decompose each fraction modeled by a tape diagram as a sum of unit fractions. Write the equivalent multiplication sentence. The first one has been done for you.

a.

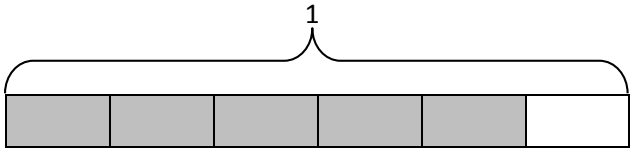


$\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ $\frac{3}{4} = 3 \times \frac{1}{4}$

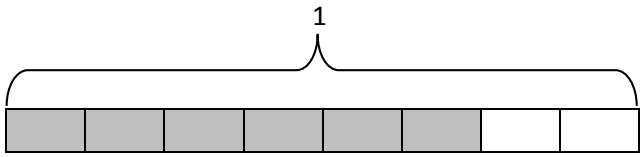
b.



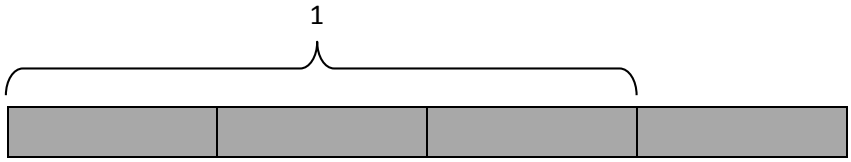
c.



d.

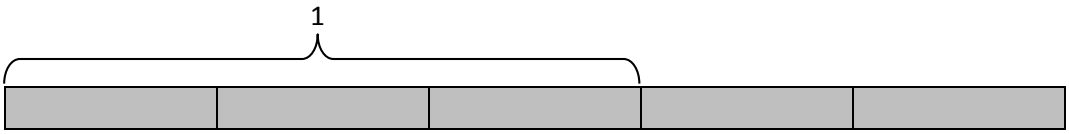


e.

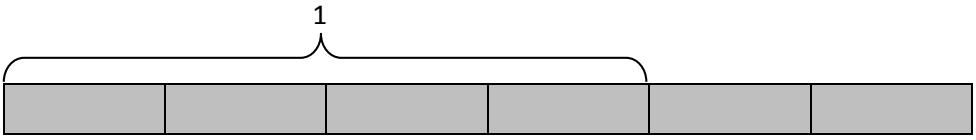


2. Write the following fractions greater than 1 as the sum of two products.

a.



b.



3. Draw a tape diagram, and record the given fraction's decomposition into unit fractions as a multiplication sentence.

a. $\frac{4}{5}$

b. $\frac{5}{8}$

c. $\frac{7}{9}$

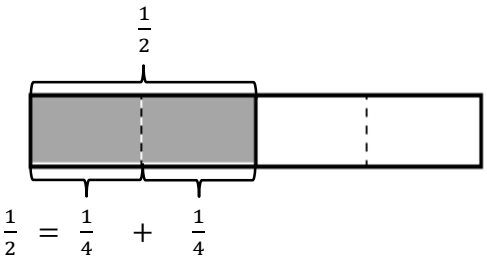
d. $\frac{7}{4}$

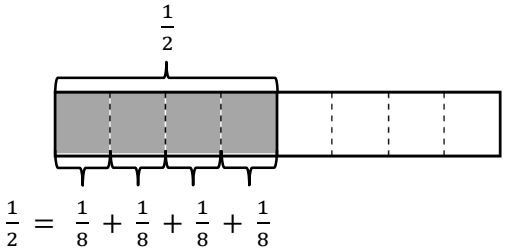
e. $\frac{7}{6}$

Name _____ Date _____

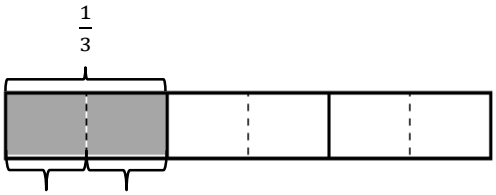
1. The total length of each tape diagram represents 1. Decompose the shaded unit fractions as the sum of smaller unit fractions in at least two different ways. The first one has been done for you.

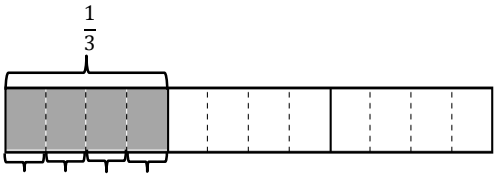
a.



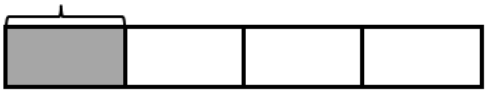


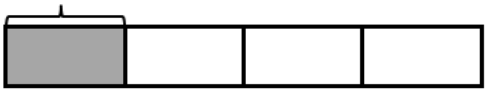
b.



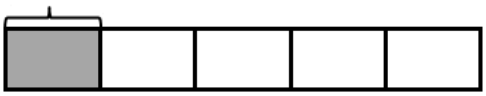


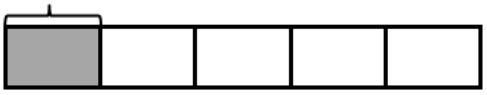
c.





d.





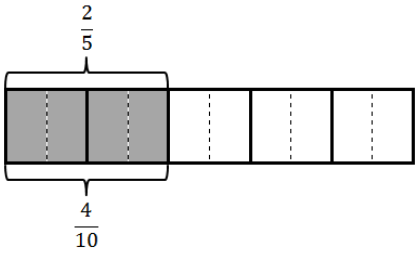
2. The total length of each tape diagram represents 1. Decompose the shaded fractions as the sum of smaller unit fractions in at least two different ways.

a.

b.

3. Draw and label tape diagrams to prove the following statements. The first one has been done for you.

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



b. $\frac{2}{6} = \frac{4}{12}$

c. $\frac{3}{4} = \frac{6}{8}$

d. $\frac{3}{4} = \frac{9}{12}$

4. Show that $\frac{1}{2}$ is equivalent to $\frac{4}{8}$ using a tape diagram and a number sentence.

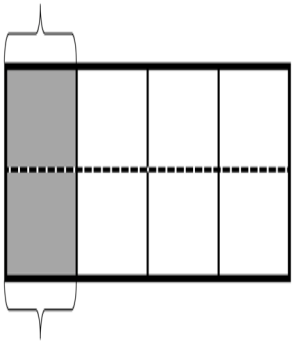
5. Show that $\frac{2}{3}$ is equivalent to $\frac{6}{9}$ using a tape diagram and a number sentence.

6. Show that $\frac{4}{6}$ is equivalent to $\frac{8}{12}$ using a tape diagram and a number sentence.

Name _____ Date _____

1. Draw horizontal lines to decompose each rectangle into the number of rows as indicated. Use the model to give the shaded area as both a sum of unit fractions and as a multiplication sentence.

   a. 2 rows

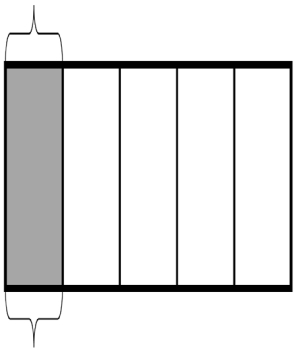


$\frac{1}{4} = \frac{2}{\_\_}$

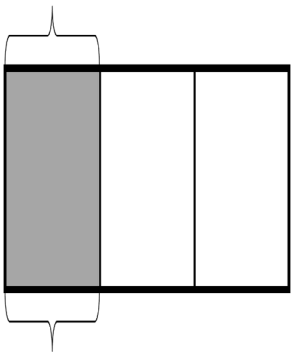
$\frac{1}{4} = \frac{1}{8} + \_\_ = \_\_$

$\frac{1}{4} = 2 \times \_\_ = \_\_$

   b. 2 rows



   c. 4 rows



2. Draw area models to show the decompositions represented by the number sentences below. Represent the decomposition as a sum of unit fractions and as a multiplication sentence.

a. $\frac{1}{2} = \frac{3}{6}$

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

c. $\frac{1}{2} = \frac{5}{10}$

d. $\frac{1}{3} = \frac{2}{6}$

e. $\frac{1}{3} = \frac{4}{12}$

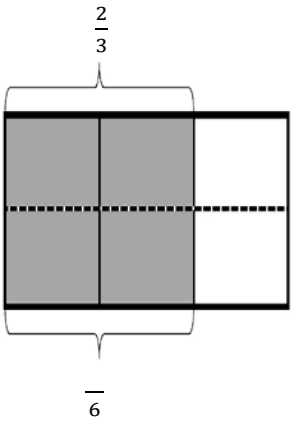
f. $\frac{1}{4} = \frac{3}{12}$

3. Explain why $\frac{1}{12} + \frac{1}{12} + \frac{1}{12}$ is the same as $\frac{1}{4}$.

Name _____ Date _____

1. Each rectangle represents 1. Draw horizontal lines to decompose each rectangle into the fractional units as indicated. Use the model to give the shaded area as a sum and as a product of unit fractions. Use parentheses to show the relationship between the number sentences. The first one has been partially done for you.

a. Sixths



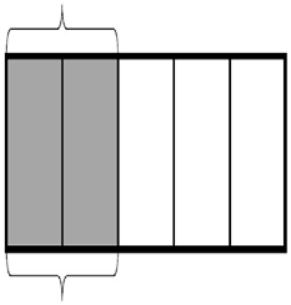
$$\frac{2}{3} = \frac{4}{\_}$$

$$\frac{1}{3} + \frac{1}{3} = \left(\frac{1}{6} + \frac{1}{6}\right) + \left(\frac{1}{6} + \frac{1}{6}\right) = \frac{4}{\_}$$

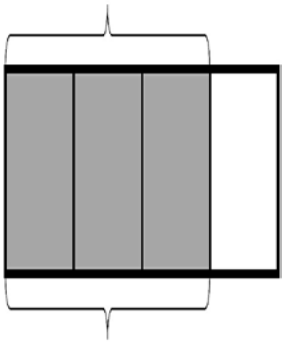
$$\left(\frac{1}{6} + \frac{1}{6}\right) + \left(\frac{1}{6} + \frac{1}{6}\right) = \left(2 \times \_\right) + \left(2 \times \_\right) = \frac{4}{\_}$$

$$\frac{2}{3} = 4 \times \_ = \frac{4}{\_}$$

b. Tenths



c. Twelfths



2. Draw area models to show the decompositions represented by the number sentences below. Express each as a sum and product of unit fractions. Use parentheses to show the relationship between the number sentences.

a. $\frac{3}{5} = \frac{6}{10}$

b. $\frac{3}{4} = \frac{6}{8}$

3. Step 1: Draw an area model for a fraction with units of thirds, fourths, or fifths.

   Step 2: Shade in more than one fractional unit.

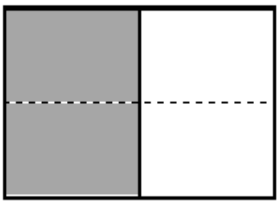
   Step 3: Partition the area model again to find an equivalent fraction.

   Step 4: Write the equivalent fractions as a number sentence. (If you've written a number sentence like this one already on this Problem Set, start over.)

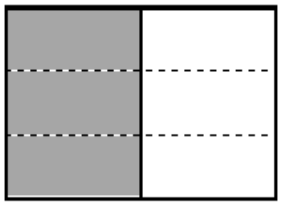
Name _____ Date _____

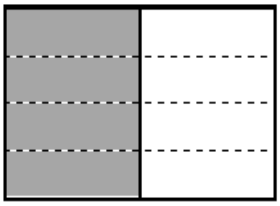
Each rectangle represents 1.

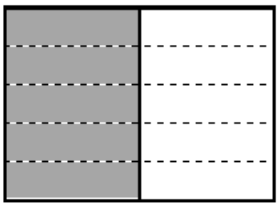
1. The shaded unit fractions have been decomposed into smaller units. Express the equivalent fractions in a number sentence using multiplication. The first one has been done for you.

a. 

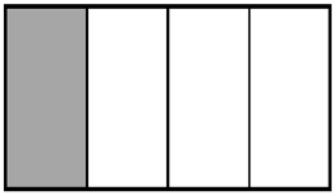
$$\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

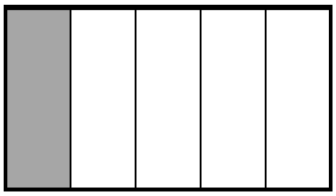
b. 

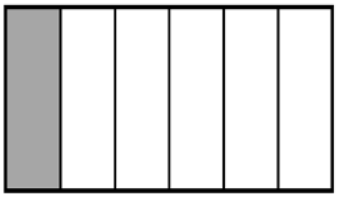
c. 

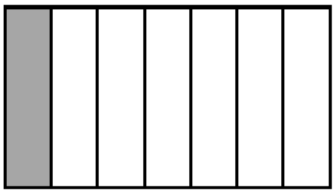
d. 

2. Decompose the shaded fractions into smaller units using the area models. Express the equivalent fractions in a number sentence using multiplication.

a. 

b. 

c. 

d. 

e. What happened to the size of the fractional units when you decomposed the fraction?

f. What happened to the total number of units in the whole when you decomposed the fraction?

3. Draw three different area models to represent 1 third by shading.
   Decompose the shaded fraction into (a) sixths, (b) ninths, and (c) twelfths.
   Use multiplication to show how each fraction is equivalent to 1 third.

   a.

   b.

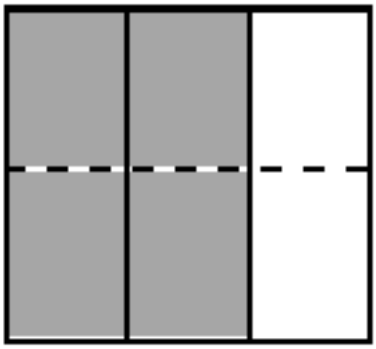
   c.

Name _____ Date _____

Each rectangle represents 1.

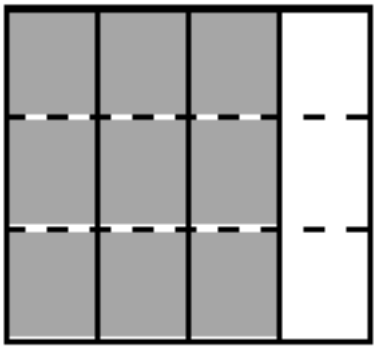
1. The shaded fractions have been decomposed into smaller units. Express the equivalent fractions in a number sentence using multiplication. The first one has been done for you.

a.

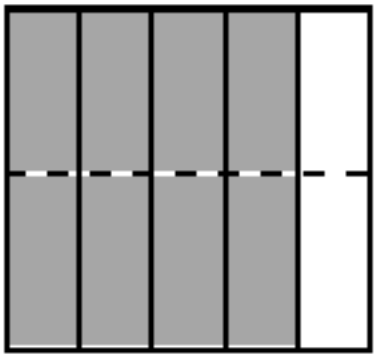


$\frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{4}{6}$

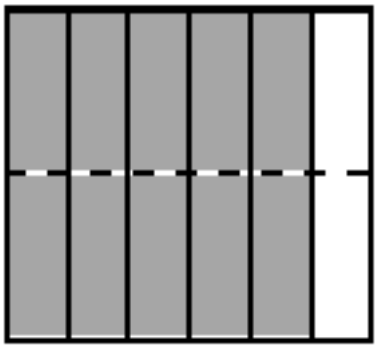
b.



c.

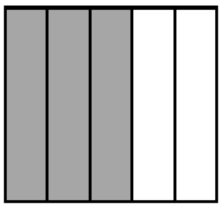


d.

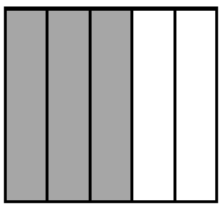


2. Decompose the shaded fractions into smaller units, as given below. Express the equivalent fractions in a number sentence using multiplication.

a. Decompose into tenths.



b. Decompose into fifteenths.



3. Draw area models to prove that the following number sentences are true.

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

b. $\frac{2}{3} = \frac{8}{12}$

c. $\frac{3}{6} = \frac{6}{12}$

d. $\frac{4}{6} = \frac{8}{12}$

4. Use multiplication to find an equivalent fraction for each fraction below.

a. $\frac{3}{4}$

b. $\frac{4}{5}$

c. $\frac{7}{6}$

d. $\frac{12}{7}$

5. Determine which of the following are true number sentences. Correct those that are false by changing the right-hand side of the number sentence.

a. $\frac{4}{3} = \frac{8}{9}$

b. $\frac{5}{4} = \frac{10}{8}$

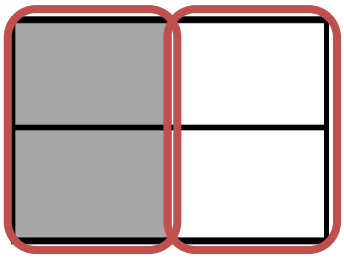
c. $\frac{4}{5} = \frac{12}{10}$

d. $\frac{4}{6} = \frac{12}{18}$

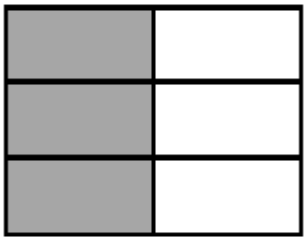
Name _____ Date _____

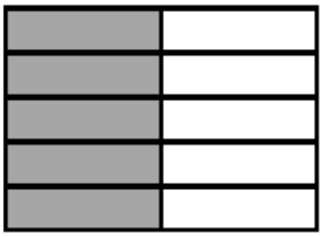
Each rectangle represents 1.

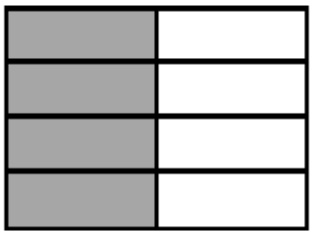
1. Compose the shaded fractions into larger fractional units. Express the equivalent fractions in a number sentence using division. The first one has been done for you.

a. 

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

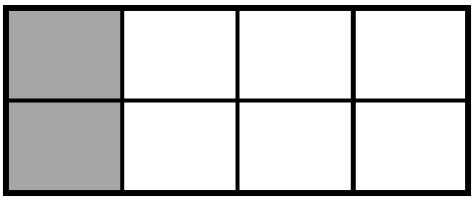
b. 

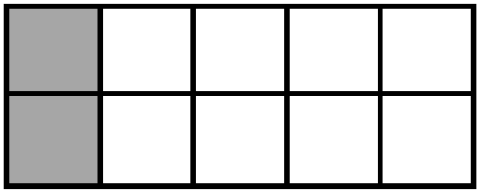
c. 

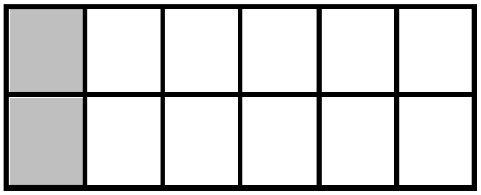
d. 

2. Compose the shaded fractions into larger fractional units. Express the equivalent fractions in a number sentence using division.

a. 

b. 

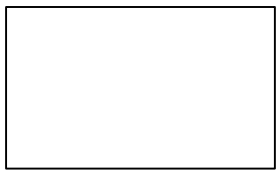
c. 

d. 

e. What happened to the size of the fractional units when you composed the fraction?

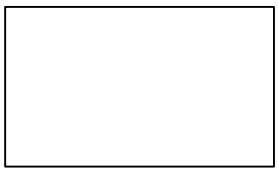
f. What happened to the total number of units in the whole when you composed the fraction?

3. a. In the first area model, show 2 sixths. In the second area model, show 3 ninths. Show how both fractions can be renamed as the same unit fraction.

b. Express the equivalent fractions in a number sentence using division.

4. a. In the first area model, show 2 eighths. In the second area model, show 3 twelfths. Show how both fractions can be composed, or renamed, as the same unit fraction.

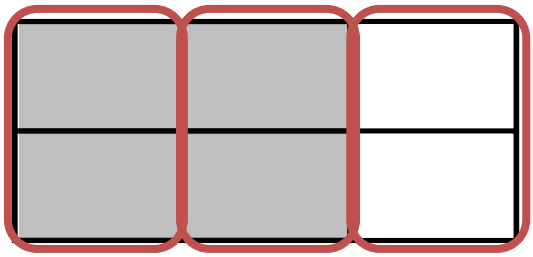



b. Express the equivalent fractions in a number sentence using division.

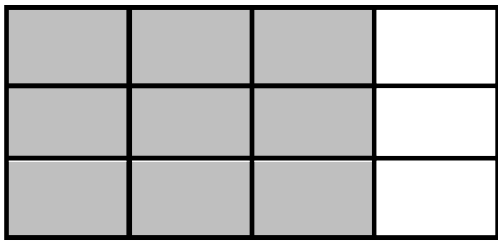
Name _____ Date _____

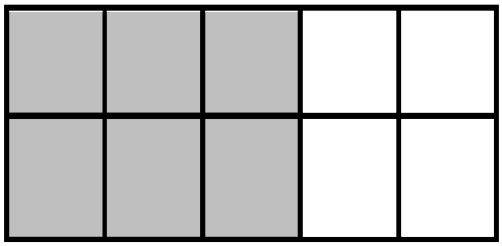
Each rectangle represents 1.

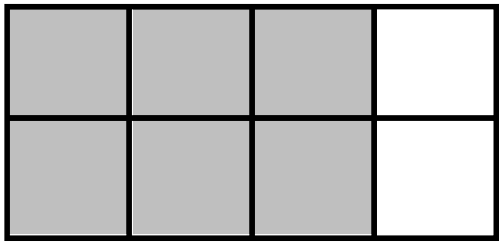
1. Compose the shaded fraction into larger fractional units. Express the equivalent fractions in a number sentence using division. The first one has been done for you.

a. 

$$\frac{4}{6} = \frac{4 \div 2}{6 \div 2} = \frac{2}{3}$$

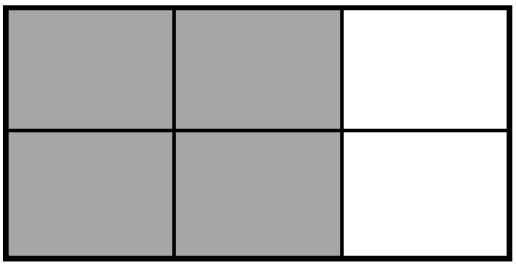
b. 

c. 

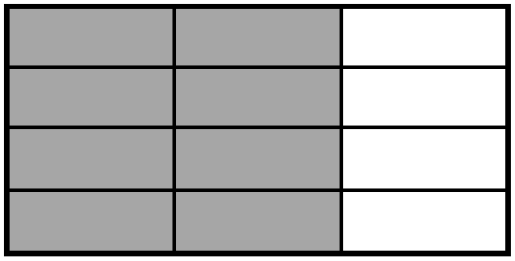
d. 

2. Compose the shaded fractions into larger fractional units. Express the equivalent fractions in a number sentence using division.

a.



b.



3. Draw an area model to represent each number sentence below.

a. $\frac{4}{10} = \frac{4 \div 2}{10 \div 2} = \frac{2}{5}$

b. $\frac{6}{9} = \frac{6 \div 3}{9 \div 3} = \frac{2}{3}$

4. Use division to rename each fraction given below. Draw a model if that helps you. See if you can use the largest common factor.

   a. $\frac{4}{8}$

   b. $\frac{12}{16}$

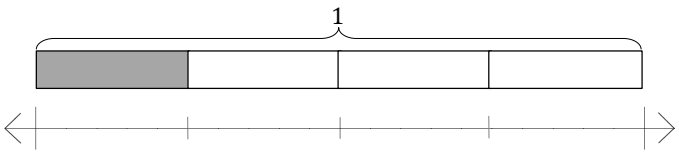
   c. $\frac{12}{20}$

   d. $\frac{16}{20}$

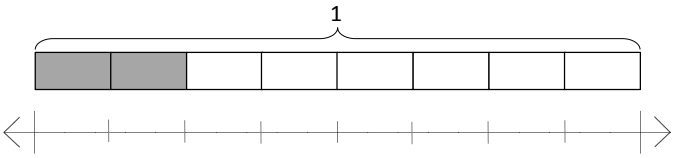
Name _____ Date _____

1. Label each number line with the fractions shown on the tape diagram. Circle the fraction that labels the point on the number line that also names the shaded part of the tape diagram.

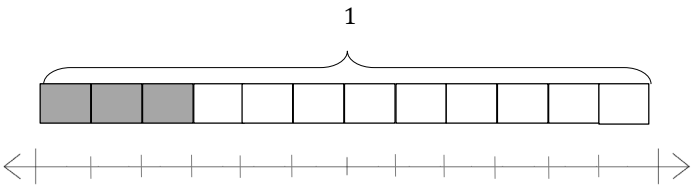
a.



b.



c.



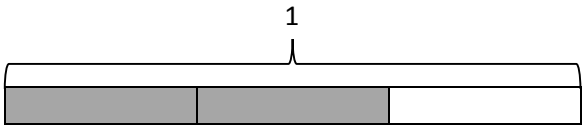
2. Write number sentences using multiplication to show:

   a. The fraction represented in 1(a) is equivalent to the fraction represented in 1(b).

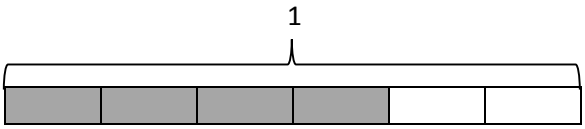
   b. The fraction represented in 1(a) is equivalent to the fraction represented in 1(c).

3. Use each shaded tape diagram below as a ruler to draw a number line. Mark each number line with the fractional units shown on the tape diagram, and circle the fraction that labels the point on the number line that also names the shaded part of the tape diagram.

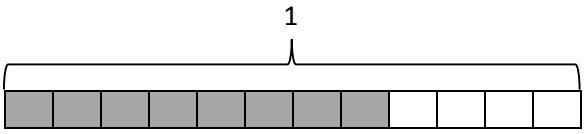
   a.



   b.



   c.



4. Write number sentences using division to show:

   a. The fraction represented in 3(a) is equivalent to the fraction represented in 3(b).

   b. The fraction represented in 3(a) is equivalent to the fraction represented in 3(c).

5. a. Partition a number line from 0 to 1 into fifths. Decompose $\frac{2}{5}$ into 4 equal lengths.

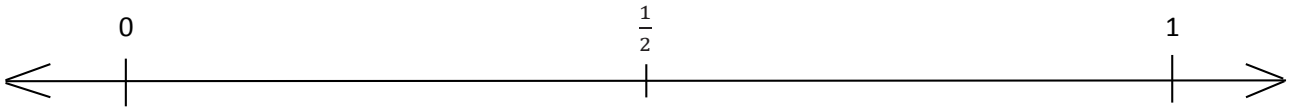
   b. Write a number sentence using multiplication to show what fraction represented on the number line is equivalent to $\frac{2}{5}$.

   c. Write a number sentence using division to show what fraction represented on the number line is equivalent to $\frac{2}{5}$.

Name _____ Date _____

1. a. Plot the following points on the number line without measuring.

i. $\frac{1}{3}$ ii. $\frac{5}{6}$ iii. $\frac{7}{12}$

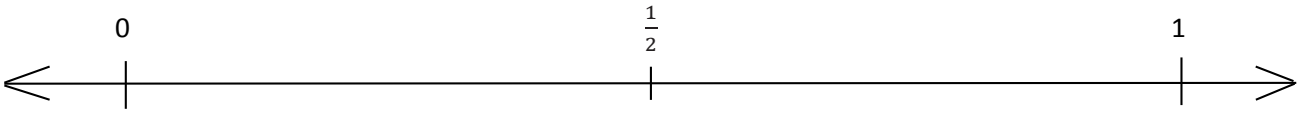


b. Use the number line in Part (a) to compare the fractions by writing >, <, or = on the lines.

i. $\frac{7}{12}$ _____ $\frac{1}{2}$ ii. $\frac{7}{12}$ _____ $\frac{5}{6}$

2. a. Plot the following points on the number line without measuring.

i. $\frac{11}{12}$ ii. $\frac{1}{4}$ iii. $\frac{3}{8}$



b. Select two fractions from Part (a), and use the given number line to compare them by writing >, <, or =.

c. Explain how you plotted the points in Part (a).

3. Compare the fractions given below by writing > or < on the lines.
   Give a brief explanation for each answer referring to the benchmarks 0, $\frac{1}{2}$, and 1.

a. $\frac{1}{2}$ _____ $\frac{3}{4}$

b. $\frac{1}{2}$ _____ $\frac{7}{8}$

c. $\frac{2}{3}$ _____ $\frac{2}{5}$

d. $\frac{9}{10}$ _____ $\frac{3}{5}$

e. $\frac{2}{3}$ _____ $\frac{7}{8}$

f. $\frac{1}{3}$ _____ $\frac{2}{4}$

g. $\frac{2}{3}$ _____ $\frac{5}{10}$

h. $\frac{11}{12}$ _____ $\frac{2}{5}$

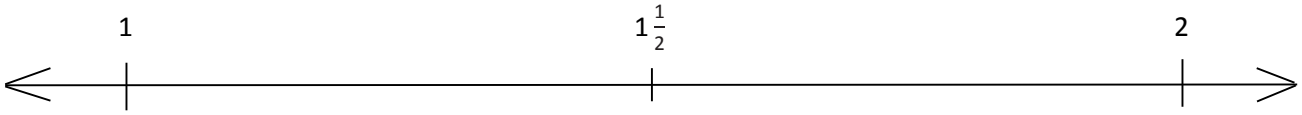
i. $\frac{49}{100}$ _____ $\frac{51}{100}$

j. $\frac{7}{16}$ _____ $\frac{51}{100}$

Name _____ Date _____

1. Place the following fractions on the number line given.

   a. $\frac{4}{3}$ b. $\frac{11}{6}$ c. $\frac{17}{12}$

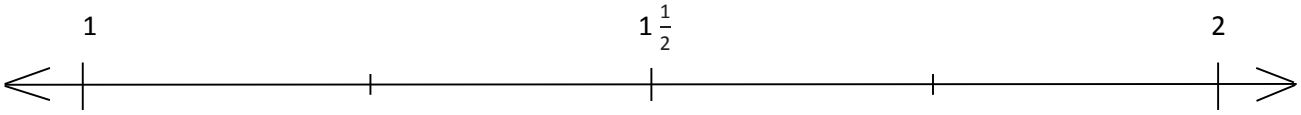


2. Use the number line in Problem 1 to compare the fractions by writing >, <, or = on the lines.

   a. $1\frac{5}{6}$ _____ $1\frac{5}{12}$ b. $1\frac{1}{3}$ _____ $1\frac{5}{12}$

3. Place the following fractions on the number line given.

   a. $\frac{11}{8}$ b. $\frac{7}{4}$ c. $\frac{15}{12}$



4. Use the number line in Problem 3 to explain the reasoning you used when determining whether $\frac{11}{8}$ or $\frac{15}{12}$ is greater.

5. Compare the fractions given below by writing > or < on the lines. Give a brief explanation for each answer referring to benchmarks.

a. $\frac{3}{8}$ _____ $\frac{7}{12}$

b. $\frac{5}{12}$ _____ $\frac{7}{8}$

c. $\frac{8}{6}$ _____ $\frac{11}{12}$

d. $\frac{5}{12}$ _____ $\frac{1}{3}$

e. $\frac{7}{5}$ _____ $\frac{11}{10}$

f. $\frac{5}{4}$ _____ $\frac{7}{8}$

g. $\frac{13}{12}$ _____ $\frac{9}{10}$

h. $\frac{6}{8}$ _____ $\frac{5}{4}$

i. $\frac{8}{12}$ _____ $\frac{8}{4}$

j. $\frac{7}{5}$ _____ $\frac{16}{10}$

Name _____ Date _____

1. Compare the pairs of fractions by reasoning about the size of the units. Use >, <, or =.

   a. 1 fourth _____ 1 fifth

   b. 3 fourths _____ 3 fifths

   c. 1 tenth _____ 1 twelfth

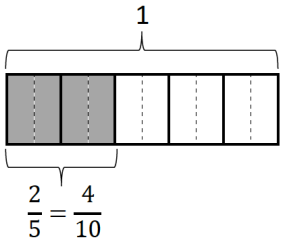
   d. 7 tenths _____ 7 twelfths

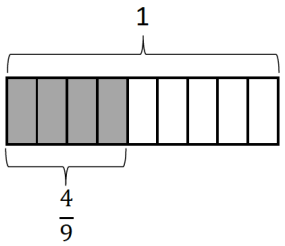
2. Compare by reasoning about the following pairs of fractions with the same or related numerators. Use >, <, or =. Explain your thinking using words, pictures, or numbers. Problem 2(b) has been done for you.

   a. $\frac{3}{5}$ _____ $\frac{3}{4}$

   b. $\frac{2}{5} < \frac{4}{9}$

   because $\frac{2}{5} = \frac{4}{10}$
   4 tenths is less than 4 ninths because tenths are smaller than ninths.





   c. $\frac{7}{11}$ _____ $\frac{7}{13}$

   d. $\frac{6}{7}$ _____ $\frac{12}{15}$

3. Draw two tape diagrams to model each pair of the following fractions with related denominators. Use >, <, or = to compare.

   a. $\frac{2}{3}$ _____ $\frac{5}{6}$

   b. $\frac{3}{4}$ _____ $\frac{7}{8}$

   c. $1\frac{3}{4}$ _____ $1\frac{7}{12}$

4. Draw one number line to model each pair of fractions with related denominators. Use >, <, or = to compare.

a. $\frac{2}{3}$ _____ $\frac{5}{6}$

b. $\frac{3}{8}$ _____ $\frac{1}{4}$

c. $\frac{2}{6}$ _____ $\frac{5}{12}$

d. $\frac{8}{9}$ _____ $\frac{2}{3}$

5. Compare each pair of fractions using >, <, or =. Draw a model if you choose to.

a. $\frac{3}{4}$ _____ $\frac{3}{7}$

b. $\frac{4}{5}$ _____ $\frac{8}{12}$

c. $\frac{7}{10}$ _____ $\frac{3}{5}$

d. $\frac{2}{3}$ _____ $\frac{11}{15}$

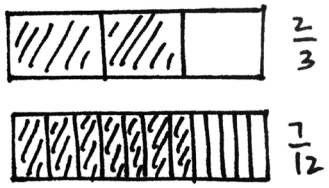
e. $\frac{3}{4}$ _____ $\frac{11}{12}$

f. $\frac{7}{3}$ _____ $\frac{7}{4}$

g. $1\frac{1}{3}$ _____ $1\frac{2}{9}$

h. $1\frac{2}{3}$ _____ $1\frac{4}{7}$

6. Timmy drew the picture to the right and claimed that $\frac{2}{3}$ is less than $\frac{7}{12}$. Evan says he thinks $\frac{2}{3}$ is greater than $\frac{7}{12}$. Who is correct? Support your answer with a picture.



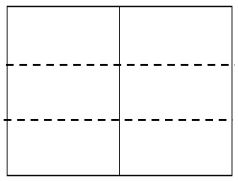
Modified from original

Name _____ Date _____

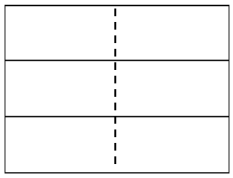
1. Draw an area model for each pair of fractions, and use it to compare the two fractions by writing >, <, or = on the line. The first two have been partially done for you. Each rectangle represents 1.

a. $\frac{1}{2}$ _____ < _____ $\frac{2}{3}$

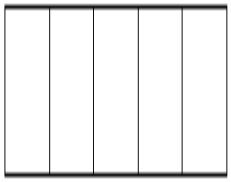
$\frac{1\times3}{2\times3} = \frac{3}{6}$



$\frac{2\times2}{3\times2} = \frac{4}{6}$



b. $\frac{4}{5}$ _____ $\frac{3}{4}$



c. $\frac{3}{5}$ _____ $\frac{4}{7}$

d. $\frac{3}{7}$ _____ $\frac{2}{6}$

e. $\frac{5}{8}$ _____ $\frac{6}{9}$

f. $\frac{2}{3}$ _____ $\frac{3}{4}$

2. Rename the fractions, as needed, using multiplication in order to compare each pair of fractions by writing >, <, or =.

a. $\frac{3}{5}$ _____ $\frac{5}{6}$

b. $\frac{2}{6}$ _____ $\frac{3}{8}$

c. $\frac{7}{5}$ _____ $\frac{10}{8}$

d. $\frac{4}{3}$ _____ $\frac{6}{5}$

3. Use any method to compare the fractions. Record your answer using >, <, or =.

a. $\frac{3}{4}$ _____ $\frac{7}{8}$

b. $\frac{6}{8}$ _____ $\frac{3}{5}$

c. $\frac{6}{4}$ _____ $\frac{8}{6}$

d. $\frac{8}{5}$ _____ $\frac{9}{6}$

4. Explain two ways you have learned to compare fractions. Provide evidence using words, pictures, or numbers.

Name _____ Date _____

1. Solve.

   a. 3 fifths – 1 fifth = _____

   b. 5 fifths – 3 fifths = _____

   c. 3 halves – 2 halves = _____

   d. 6 fourths – 3 fourths = _____

2. Solve.

   a. $\frac{5}{6} - \frac{3}{6}$

   b. $\frac{6}{8} - \frac{4}{8}$

   c. $\frac{3}{10} - \frac{3}{10}$

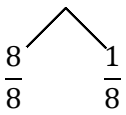
   d. $\frac{5}{5} - \frac{4}{5}$

   e. $\frac{5}{4} - \frac{4}{4}$

   f. $\frac{5}{4} - \frac{3}{4}$

3. Solve. Use a number bond to show how to convert the difference to a mixed number. Problem (a) has been completed for you.

   a. $\frac{12}{8} - \frac{3}{8} = \frac{9}{8} = 1\frac{1}{8}$

   b. $\frac{12}{6} - \frac{5}{6}$

   c. $\frac{9}{5} - \frac{3}{5}$

   d. $\frac{14}{8} - \frac{3}{8}$

   e. $\frac{8}{4} - \frac{2}{4}$

   f. $\frac{15}{10} - \frac{3}{10}$

4. Solve. Write the sum in unit form.

   a. 2 fourths + 1 fourth = _____

   b. 4 fifths + 3 fifths = _____

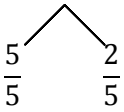
5. Solve.

   a. $\frac{2}{8} + \frac{5}{8}$

   b. $\frac{4}{12} + \frac{5}{12}$

6. Solve. Use a number bond to decompose the sum. Record your final answer as a mixed number. Problem (a) has been completed for you.

   a. $\frac{3}{5} + \frac{4}{5} = \frac{7}{5} = 1\frac{2}{5}$

   b. $\frac{4}{4} + \frac{3}{4}$

   c. $\frac{6}{9} + \frac{6}{9}$

   d. $\frac{7}{10} + \frac{6}{10}$

   e. $\frac{5}{6} + \frac{7}{6}$

   f. $\frac{9}{8} + \frac{5}{8}$

7. Solve. Use a number line to model your answer.

   a. $\frac{7}{4} - \frac{5}{4}$

   b. $\frac{5}{4} + \frac{2}{4}$

Name _____ Date _____

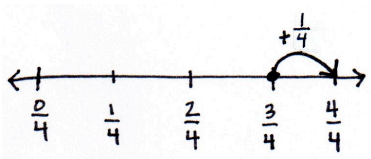
1. Use the following three fractions to write two subtraction and two addition number sentences.

a. $\frac{8}{5}, \frac{2}{5}, \frac{10}{5}$	b. $\frac{15}{8}, \frac{7}{8}, \frac{8}{8}$

2. Solve. Model each subtraction problem with a number line, and solve by both counting up and subtracting. Part (a) has been completed for you.

a. $1 - \frac{3}{4}$

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



b. $1 - \frac{8}{10}$

c. $1 - \frac{3}{5}$

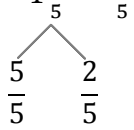
d. $1 - \frac{5}{8}$

e. $1\frac{2}{10} - \frac{7}{10}$

f. $1\frac{1}{5} - \frac{3}{5}$

3. Find the difference in two ways. Use number bonds to decompose the total. Part (a) has been completed for you.

a. $1\frac{2}{5} - \frac{4}{5}$



$\frac{5}{5} + \frac{2}{5} = \frac{7}{5}$

$\frac{7}{5} - \frac{4}{5} = \frac{3}{5}$

$\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$

$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$

b. $1\frac{3}{6} - \frac{4}{6}$

c. $1\frac{6}{8} - \frac{7}{8}$

d. $1\frac{1}{10} - \frac{7}{10}$

e. $1\frac{3}{12} - \frac{6}{12}$

Name _____ Date _____

1. Show one way to solve each problem. Express sums and differences as a mixed number when possible. Use number bonds when it helps you. Part (a) is partially completed.

a. $\frac{2}{5} + \frac{3}{5} + \frac{1}{5}$ $= \frac{5}{5} + \frac{1}{5} = 1 + \frac{1}{5}$ =_____	b. $\frac{3}{6} + \frac{1}{6} + \frac{3}{6}$	c. $\frac{5}{7} + \frac{7}{7} + \frac{2}{7}$
d. $\frac{7}{8} - \frac{3}{8} - \frac{1}{8}$	e. $\frac{7}{9} + \frac{1}{9} + \frac{4}{9}$	f. $\frac{4}{10} + \frac{11}{10} + \frac{5}{10}$
g. $1 - \frac{3}{12} - \frac{4}{12}$	h. $1\frac{2}{3} - \frac{1}{3} - \frac{1}{3}$	i. $\frac{10}{12} + \frac{5}{12} + \frac{2}{12} + \frac{7}{12}$

2. Monica and Stuart used different strategies to solve $\frac{5}{8}+\frac{2}{8}+\frac{5}{8}$.

Monica's Way

$$\frac{5}{8}+\frac{2}{8}+\frac{5}{8}=\frac{7}{8}+\frac{5}{8}=\frac{8}{8}+\frac{4}{8}=1\frac{4}{8}$$

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

Stuart's Way

$$\frac{5}{8}+\frac{2}{8}+\frac{5}{8}=\frac{12}{8}=1+\frac{4}{8}=1\frac{4}{8}$$

$\frac{8}{8}$ $\frac{4}{8}$

Whose strategy do you like best? Why?

3. You gave one solution for each part of Problem 1. Now, for each problem indicated below, give a different solution method.

1(c) $\frac{5}{7}+\frac{7}{7}+\frac{2}{7}$

1(f) $\frac{4}{10}+\frac{11}{10}+\frac{5}{10}$

1(g) $1-\frac{3}{12}-\frac{4}{12}$

Name _____ Date _____

Use the RDW process to solve.

1. Sue ran $\frac{9}{10}$ mile on Monday and $\frac{7}{10}$ mile on Tuesday. How many miles did Sue run in the 2 days?

2. Mr. Salazar cut his son's birthday cake into 8 equal pieces. Mr. Salazar, Mrs. Salazar, and the birthday boy each ate 1 piece of cake. What fraction of the cake was left?

3. Maria spent $\frac{4}{7}$ of her money on a book and saved the rest. What fraction of her money did Maria save?

4. Mrs. Jones had $1\frac{4}{8}$ pizzas left after a party. After giving some to Gary, she had $\frac{7}{8}$ pizza left. What fraction of a pizza did she give Gary?

5. A baker had 2 pans of corn bread. He served $1\frac{1}{4}$ pans. What fraction of a pan was left?

6. Marius combined $\frac{4}{8}$ gallon of lemonade, $\frac{3}{8}$ gallon of cranberry juice, and $\frac{6}{8}$ gallon of soda water to make punch for a party. How many gallons of punch did he make in all?

Name _____ Date _____

1. Use a tape diagram to represent each addend. Decompose one of the tape diagrams to make like units. Then, write the complete number sentence. Part (a) is partially completed.

a. $\frac{1}{4} + \frac{1}{8}$

$\frac{\quad}{8} + \frac{\quad}{8} = \frac{\quad}{8}$

b. $\frac{1}{4} + \frac{1}{12}$

c. $\frac{2}{6} + \frac{1}{3}$

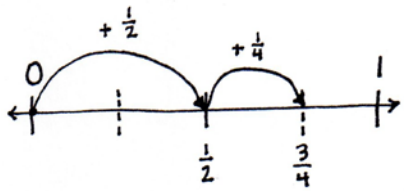
d. $\frac{1}{2} + \frac{3}{8}$

e. $\frac{3}{10} + \frac{3}{5}$

f. $\frac{2}{3} + \frac{2}{9}$

2. Estimate to determine if the sum is between 0 and 1 or 1 and 2. Draw a number line to model the addition. Then, write a complete number sentence. Part (a) has been completed for you.

a. $\frac{1}{2} + \frac{1}{4}$ $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$



b. $\frac{1}{2} + \frac{4}{10}$

c. $\frac{6}{10} + \frac{1}{2}$

d. $\frac{2}{3} + \frac{3}{6}$

e. $\frac{3}{4} + \frac{6}{8}$

f. $\frac{4}{10} + \frac{6}{5}$

3. Solve the following addition problem without drawing a model. Show your work.

$$\frac{2}{3} + \frac{4}{6}$$

Modified from original

Name _____ Date _____

1. Draw a tape diagram to represent each addend. Decompose one of the tape diagrams to make like units. Then, write a complete number sentence. Use a number bond to write each sum as a mixed number.

a. $\frac{3}{4} + \frac{1}{2}$

b. $\frac{2}{3} + \frac{3}{6}$

c. $\frac{5}{6} + \frac{1}{3}$

d. $\frac{4}{5} + \frac{7}{10}$

2. Draw a number line to model the addition. Then, write a complete number sentence. Use a number bond to write each sum as a mixed number.

a. $\frac{1}{2} + \frac{3}{4}$

b. $\frac{1}{2} + \frac{6}{8}$

c. $\frac{7}{10} + \frac{3}{5}$

d. $\frac{2}{3} + \frac{5}{6}$

3. Solve. Write the sum as a mixed number. Draw a model if needed.

a. $\frac{3}{4} + \frac{2}{8}$

b. $\frac{4}{6} + \frac{1}{2}$

c. $\frac{4}{6} + \frac{2}{3}$

d. $\frac{8}{10} + \frac{3}{5}$

e. $\frac{5}{8} + \frac{3}{4}$

f. $\frac{5}{8} + \frac{2}{4}$

g. $\frac{1}{2} + \frac{5}{8}$

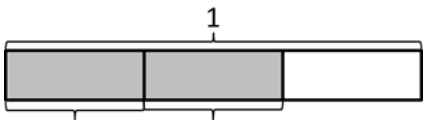
h. $\frac{3}{10} + \frac{4}{5}$

Start of Homework section for Mission 5

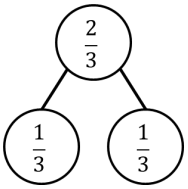
Name _____ Date _____

1. Draw a number bond, and write the number sentence to match each tape diagram. The first one is done for you.

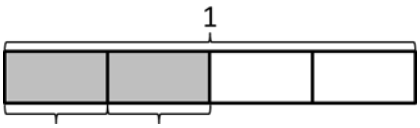
a.



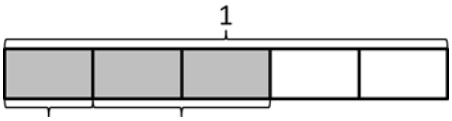
$\frac{2}{3} = \frac{1}{3} + \frac{1}{3}$



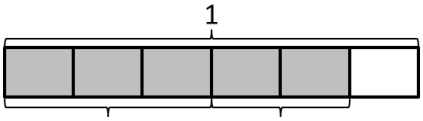
b.



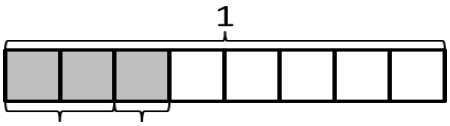
c.



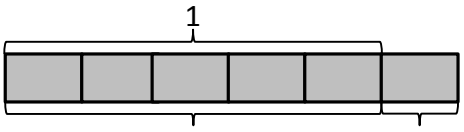
d.



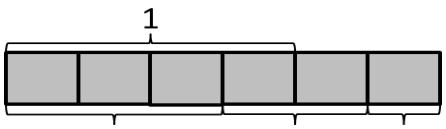
e.



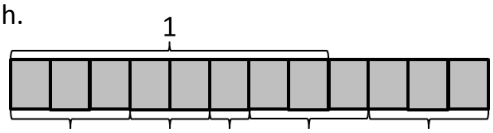
f.



g.



h.



2. Draw and label tape diagrams to match each number sentence.

a. $\frac{5}{8} = \frac{2}{8} + \frac{2}{8} + \frac{1}{8}$

b. $\frac{12}{8} = \frac{6}{8} + \frac{2}{8} + \frac{4}{8}$

c. $\frac{11}{10} = \frac{5}{10} + \frac{5}{10} + \frac{1}{10}$

d. $\frac{13}{12} = \frac{7}{12} + \frac{1}{12} + \frac{5}{12}$

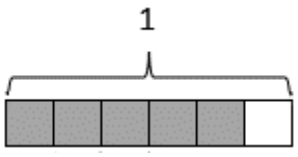
e. $1\frac{1}{4} = 1 + \frac{1}{4}$

f. $1\frac{2}{7} = 1 + \frac{2}{7}$

Name _____ Date _____

1. Step 1: Draw and shade a tape diagram of the given fraction.
   Step 2: Record the decomposition as a sum of unit fractions.
   Step 3: Record the decomposition of the fraction two more ways.
   (The first one has been done for you.)

   a. $\frac{5}{6}$



$\frac{5}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$ $\frac{5}{6} = \frac{2}{6} + \frac{2}{6} + \frac{1}{6}$ $\frac{5}{6} = \frac{1}{6} + \frac{4}{6}$

   b. $\frac{6}{8}$

   c. $\frac{7}{10}$

2. Step 1: Draw and shade a tape diagram of the given fraction.
   Step 2: Record the decomposition of the fraction in three different ways using number sentences.

   a. $\frac{10}{12}$

   b. $\frac{5}{4}$

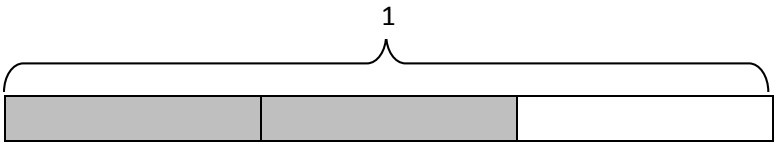
   c. $\frac{6}{5}$

   d. $1\frac{1}{4}$

Name _____ Date _____

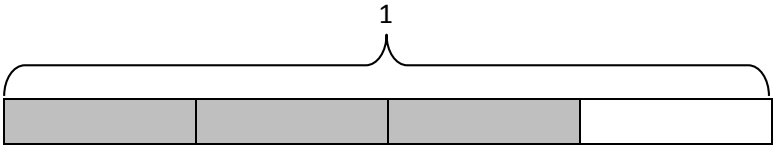
1. Decompose each fraction modeled by a tape diagram as a sum of unit fractions. Write the equivalent multiplication sentence. The first one has been done for you.

a.

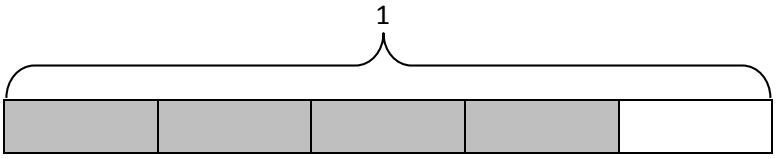


$\frac{2}{3} = \frac{1}{3} + \frac{1}{3}$ $\frac{2}{3} = 2 \times \frac{1}{3}$

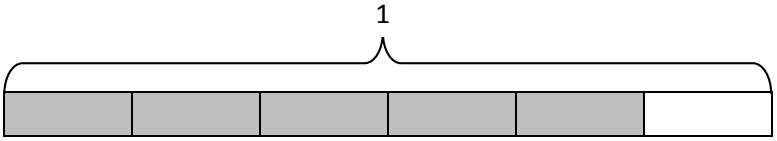
b.



c.

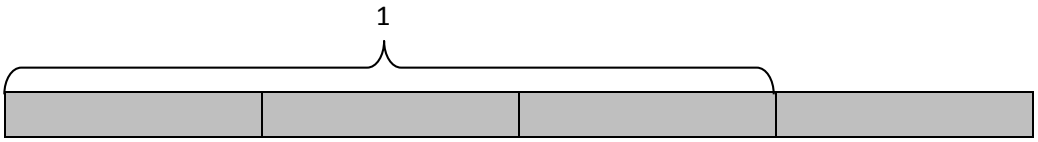


d.

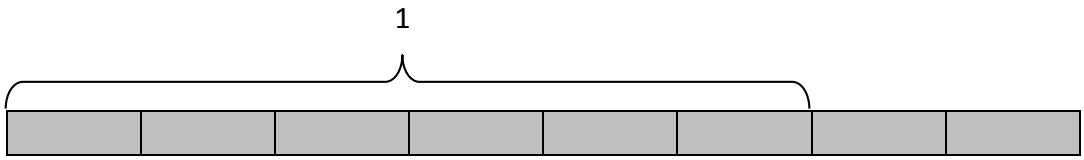


2. Write the following fractions greater than 1 as the sum of two products.

a.



b.



3. Draw a tape diagram, and record the given fraction's decomposition into unit fractions as a multiplication sentence.

a. $\frac{3}{5}$

b. $\frac{3}{8}$

c. $\frac{5}{9}$

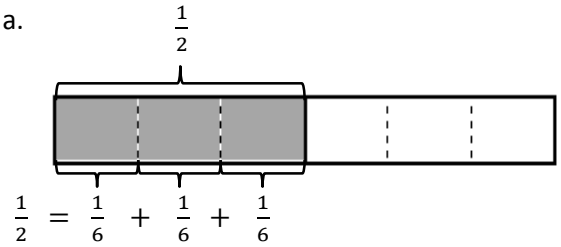
d. $\frac{8}{5}$

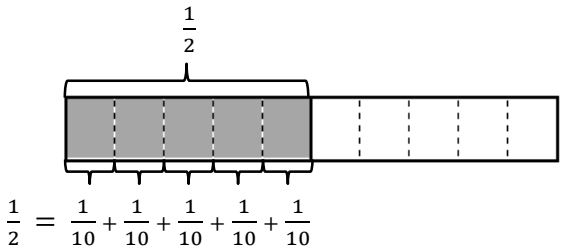
e. $\frac{12}{4}$

Name _____ Date _____

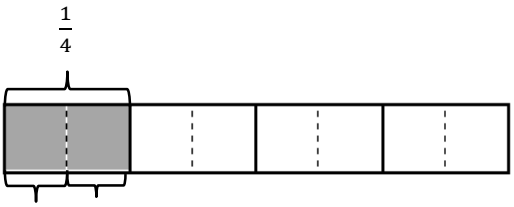
1. The total length of each tape diagram represents 1. Decompose the shaded unit fractions as the sum of smaller unit fractions in at least two different ways. The first one has been done for you.

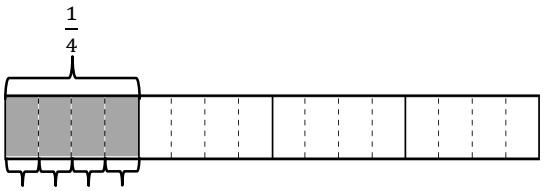
a.





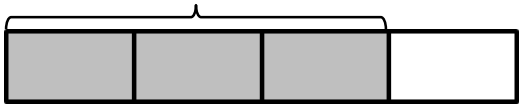
b.

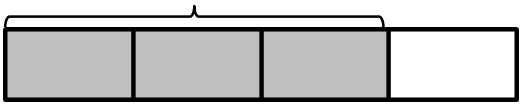




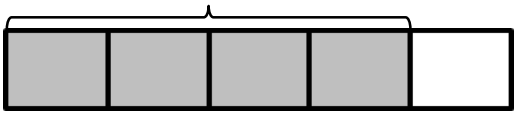
2. The total length of each tape diagram represents 1. Decompose the shaded fractions as the sum of smaller unit fractions in at least two different ways.

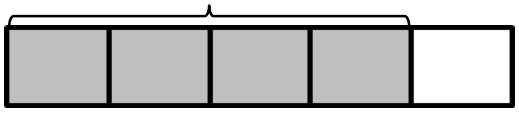
a.





b.

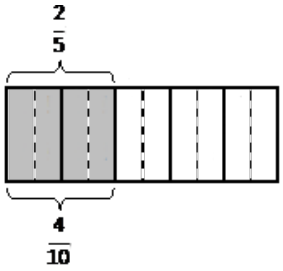




c.

3. Draw tape diagrams to prove the following statements. The first one has been done for you.

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



b. $\frac{3}{6} = \frac{6}{12}$

c. $\frac{2}{6} = \frac{6}{18}$

d. $\frac{3}{4} = \frac{12}{16}$

4. Show that $\frac{1}{2}$ is equivalent to $\frac{6}{12}$ using a tape diagram and a number sentence.

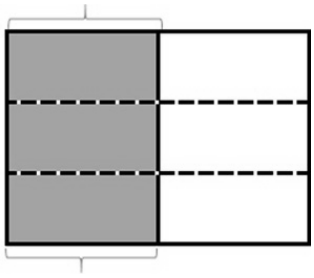
5. Show that $\frac{2}{3}$ is equivalent to $\frac{8}{12}$ using a tape diagram and a number sentence.

6. Show that $\frac{4}{5}$ is equivalent to $\frac{12}{15}$ using a tape diagram and a number sentence.

Name _____ Date _____

1. Draw horizontal lines to decompose each rectangle into the number of rows as indicated. Use the model to give the shaded area as both a sum of unit fractions and as a multiplication sentence.

   a. 3 rows

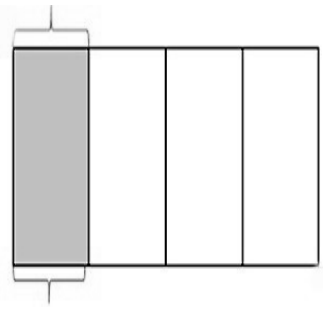


$$\frac{1}{2} = \frac{3}{\quad}$$

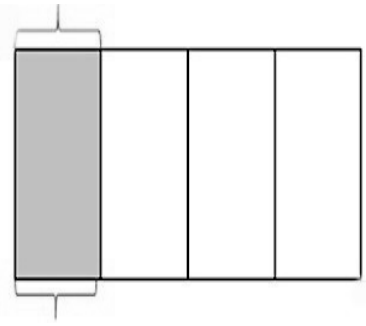
$$\frac{1}{2} = \frac{1}{6} + \frac{\quad}{} + \frac{\quad}{} = \frac{3}{6}$$

$$\frac{1}{2} = 3 \times \frac{\quad}{} = \frac{3}{6}$$

   b. 2 rows



   c. 4 rows



2. Draw area models to show the decompositions represented by the number sentences below. Represent the decomposition as a sum of unit fractions and as a multiplication sentence.

a. $\frac{1}{3} = \frac{2}{6}$

b. $\frac{1}{3} = \frac{3}{9}$

c. $\frac{1}{3} = \frac{4}{12}$

d. $\frac{1}{3} = \frac{5}{15}$

e. $\frac{1}{5} = \frac{2}{10}$

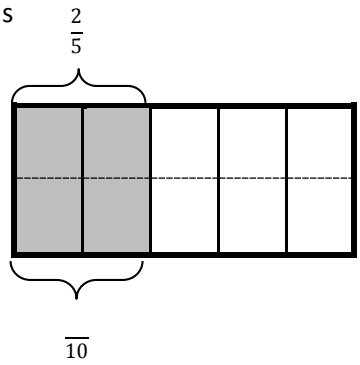
f. $\frac{1}{5} = \frac{3}{15}$

3. Explain why $\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$ is the same as $\frac{1}{3}$.

Name _____ Date _____

1. Each rectangle represents 1. Draw horizontal lines to decompose each rectangle into the fractional units as indicated. Use the model to give the shaded area as a sum and as a product of unit fractions. Use parentheses to show the relationship between the number sentences. The first one has been partially done for you.

   a. Tenths



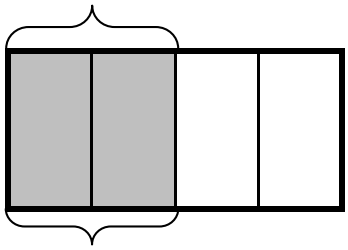
$$\frac{2}{5} = \frac{4}{\quad}$$

$$\frac{1}{5} + \frac{1}{5} = \left(\frac{1}{10} + \frac{1}{10}\right) + \left(\frac{1}{10} + \frac{1}{10}\right) = \frac{4}{\quad}$$

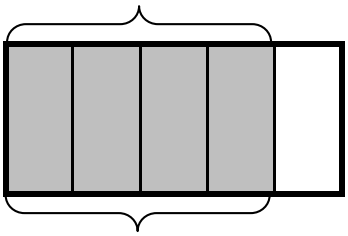
$$\left(\frac{1}{10} + \frac{1}{10}\right) + \left(\frac{1}{10} + \frac{1}{10}\right) = (2 \times \_\_) + (2 \times \_\_) = \frac{4}{\quad}$$

$$\frac{2}{5} = 4 \times \_\_ = \frac{4}{\quad}$$

   b. Eighths



c. Fifteenths



2. Draw area models to show the decompositions represented by the number sentences below. Express each as a sum and product of unit fractions. Use parentheses to show the relationship between the number sentences.

a. $\frac{2}{3} = \frac{4}{6}$

b. $\frac{4}{5} = \frac{8}{10}$

3. Step 1: Draw an area model for a fraction with units of thirds, fourths, or fifths.

   Step 2: Shade in more than one fractional unit.

   Step 3: Partition the area model again to find an equivalent fraction.

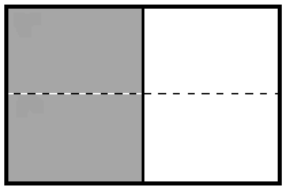
   Step 4: Write the equivalent fractions as a number sentence. (If you have written a number sentence like this one already in this Homework, start over.)

Name _____ Date _____

Each rectangle represents 1.

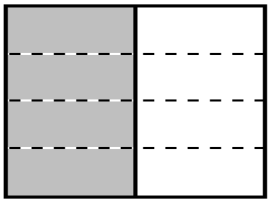
1. The shaded unit fractions have been decomposed into smaller units. Express the equivalent fractions in a number sentence using multiplication. The first one has been done for you.

a.

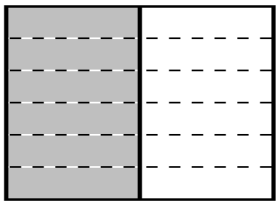


$\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$

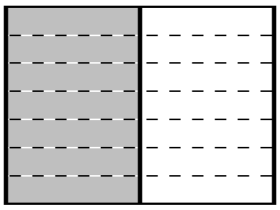
b.



c.



d.

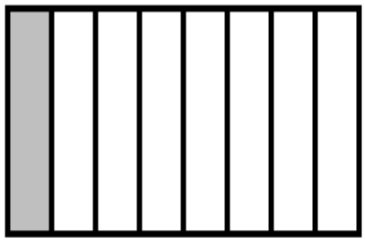


2. Decompose the shaded fractions into smaller units using the area models. Express the equivalent fractions in a number sentence using multiplication.

a.

b.

c. 

d. 

3. Draw three different area models to represent 1 fourth by shading.
   Decompose the shaded fraction into (a) eighths, (b) twelfths, and (c) sixteenths.
   Use multiplication to show how each fraction is equivalent to 1 fourth.

   a.

   b.

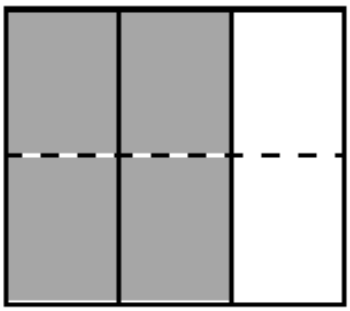
   c.

Name _____ Date _____

Each rectangle represents 1.

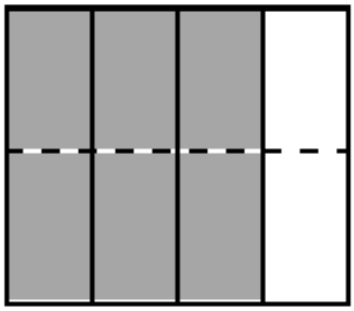
1. The shaded fractions have been decomposed into smaller units. Express the equivalent fractions in a number sentence using multiplication. The first one has been done for you.

a.

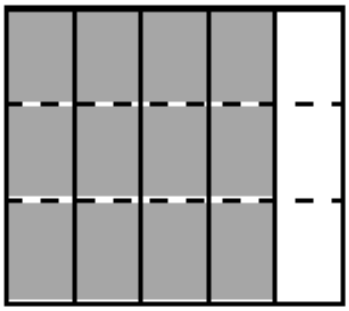


$$\frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{4}{6}$$

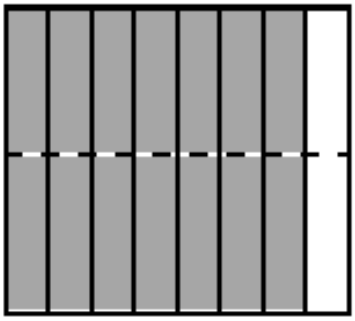
b.



c.



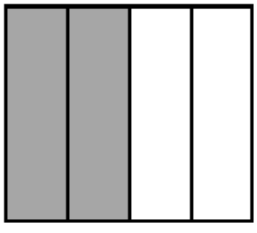
d.



2. Decompose both shaded fractions into twelfths. Express the equivalent fractions in a number sentence using multiplication.

a.

b.



3. Draw area models to prove that the following number sentences are true.

a. $\frac{1}{3} = \frac{2}{6}$

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

c. $\frac{5}{7} = \frac{10}{14}$

d. $\frac{3}{6} = \frac{9}{18}$

4. Use multiplication to create an equivalent fraction for each fraction below.

a. $\frac{2}{3}$

b. $\frac{5}{6}$

c. $\frac{6}{5}$

d. $\frac{10}{8}$

5. Determine which of the following are true number sentences. Correct those that are false by changing the right-hand side of the number sentence.

a. $\frac{2}{3} = \frac{4}{9}$

b. $\frac{5}{6} = \frac{10}{12}$

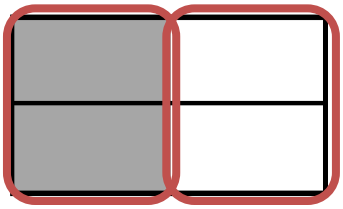
c. $\frac{3}{5} = \frac{6}{15}$

d. $\frac{7}{4} = \frac{21}{12}$

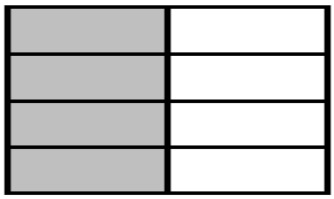
Name _____ Date _____

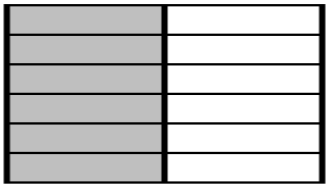
Each rectangle represents 1.

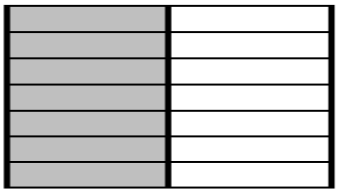
1. Compose the shaded fractions into larger fractional units. Express the equivalent fractions in a number sentence using division. The first one has been done for you.

a. 

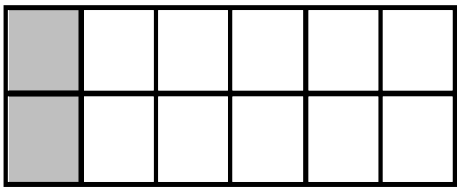
$$\frac{2}{4} = \frac{2 \div 2}{4 \div 2} = \frac{1}{2}$$

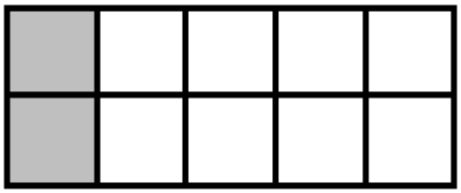
b 

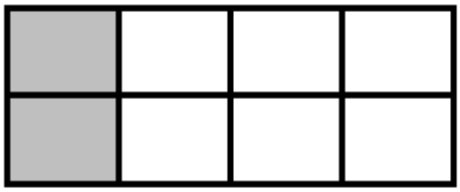
c. 

d. 

2. Compose the shaded fractions into larger fractional units. Express the equivalent fractions in a number sentence using division.

a. 

b. 

c. 

d. 

e. What happened to the size of the fractional units when you composed the fraction?

f. What happened to the total number of units in the whole when you composed the fraction?

3. a. In the first area model, show 4 eighths. In the second area model, show 6 twelfths. Show how both fractions can be composed, or renamed, as the same unit fraction.

b. Express the equivalent fractions in a number sentence using division.

4. a. In the first area model, show 4 eighths. In the second area model, show 8 sixteenths. Show how both fractions can be composed, or renamed, as the same unit fraction.

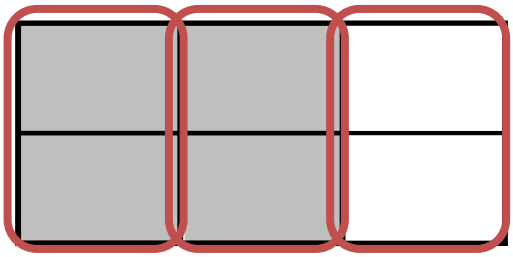
b. Express the equivalent fractions in a number sentence using division.

Name _____ Date _____

Each rectangle represents 1.

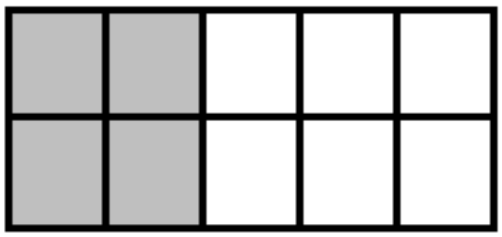
1. Compose the shaded fraction into larger fractional units. Express the equivalent fractions in a number sentence using division. The first one has been done for you.

a.

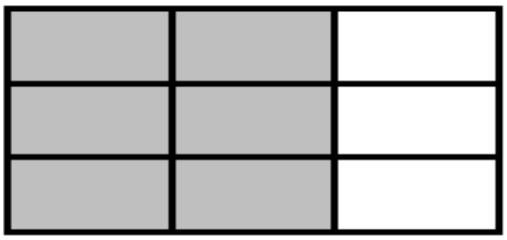


$$\frac{4}{6} = \frac{4 \div 2}{6 \div 2} = \frac{2}{3}$$

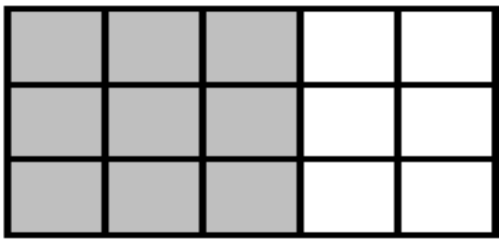
b.



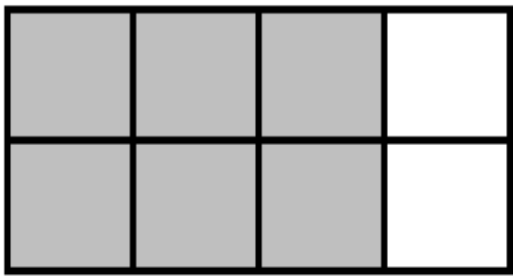
c.

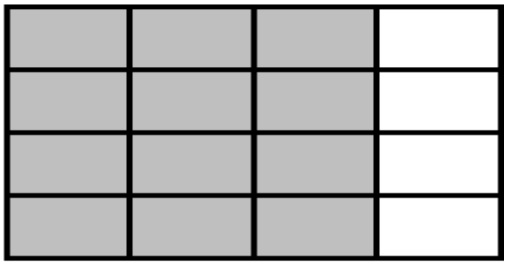


d.



2. Compose the shaded fractions into larger fractional units. Express the equivalent fractions in a number sentence using division.

a. 

b. 

3. Draw an area model to represent each number sentence below.

a. $\frac{6}{15} = \frac{6 \div 3}{15 \div 3} = \frac{2}{5}$

b. $\frac{6}{18} = \frac{6 \div 3}{18 \div 3} = \frac{2}{6}$

4. Use division to rename each fraction given below. Draw a model if that helps you. See if you can use the largest common factor.

   a. $\frac{6}{12}$

   b. $\frac{4}{12}$

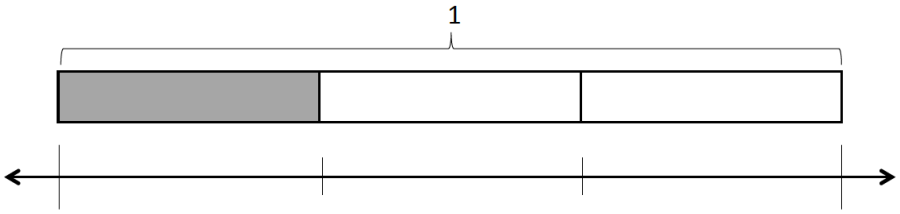
   c. $\frac{8}{12}$

   d. $\frac{12}{18}$

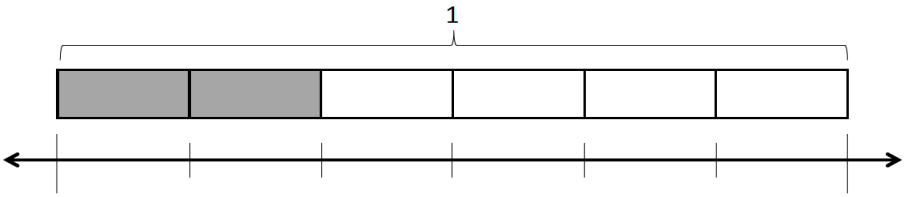
Name _____ Date _____

1. Label each number line with the fractions shown on the tape diagram. Circle the fraction that labels the point on the number line that also names the shaded part of the tape diagram.

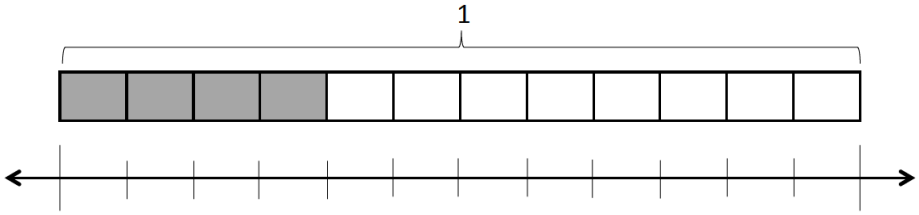
a.



b.



c.

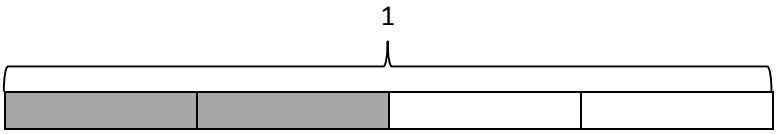


2. Write number sentences using multiplication to show:
   a. The fraction represented in 1(a) is equivalent to the fraction represented in 1(b).

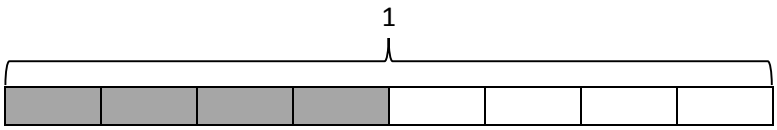
   b. The fraction represented in 1(a) is equivalent to the fraction represented in 1(c).

3. Use each shaded tape diagram below as a ruler to draw a number line. Mark each number line with the fractional units shown on the tape diagram, and circle the fraction that labels the point on the number line that also names the shaded part of the tape diagram.

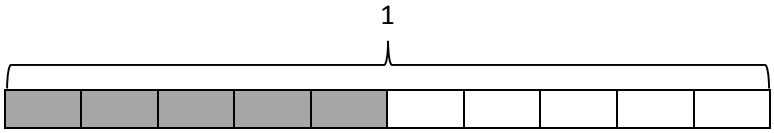
   a.



   b.



   c.



4. Write a number sentence using division to show the fraction represented in 3(a) is equivalent to the fraction represented in 3(b).

5. a. Partition a number line from 0 to 1 into fourths. Decompose $\frac{3}{4}$ into 6 equal lengths.

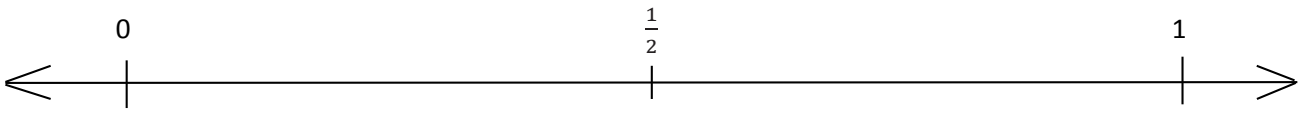
   b. Write a number sentence using multiplication to show what fraction represented on the number line is equivalent to $\frac{3}{4}$.

   c. Write a number sentence using division to show what fraction represented on the number line is equivalent to $\frac{3}{4}$.

Name _____ Date _____

1. a. Plot the following points on the number line without measuring.

i. $\frac{2}{3}$ ii. $\frac{1}{6}$ iii. $\frac{4}{10}$

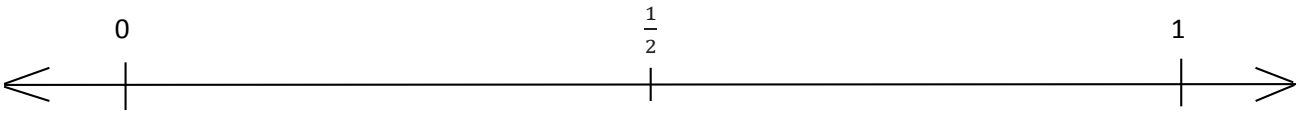


b. Use the number line in Part (a) to compare the fractions by writing >, <, or = on the lines.

i. $\frac{2}{3}$ _____ $\frac{1}{2}$ ii. $\frac{4}{10}$ _____ $\frac{1}{6}$

2. a. Plot the following points on the number line without measuring.

i. $\frac{5}{12}$ ii. $\frac{3}{4}$ iii. $\frac{2}{6}$



b. Select two fractions from Part (a), and use the given number line to compare them by writing >, <, or =.

c. Explain how you plotted the points in Part (a).

3. Compare the fractions given below by writing > or < on the lines.
   Give a brief explanation for each answer referring to the benchmark of 0, $\frac{1}{2}$, and 1.

a. $\frac{1}{2}$ _____ $\frac{1}{4}$

b. $\frac{6}{8}$ _____ $\frac{1}{2}$

c. $\frac{3}{4}$ _____ $\frac{3}{5}$

d. $\frac{4}{6}$ _____ $\frac{9}{12}$

e. $\frac{2}{3}$ _____ $\frac{1}{4}$

f. $\frac{4}{5}$ _____ $\frac{8}{12}$

g. $\frac{1}{3}$ _____ $\frac{3}{6}$

h. $\frac{7}{8}$ _____ $\frac{3}{5}$

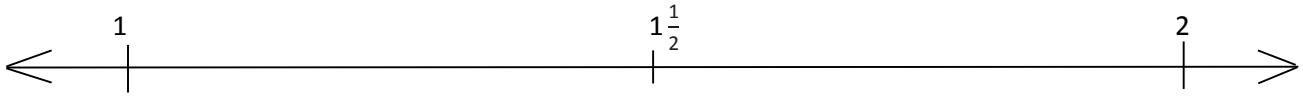
i. $\frac{51}{100}$ _____ $\frac{5}{10}$

j. $\frac{8}{14}$ _____ $\frac{49}{100}$

Name _____ Date _____

1. Place the following fractions on the number line given.

   a. $\frac{3}{2}$ b. $\frac{9}{5}$ c. $\frac{14}{10}$

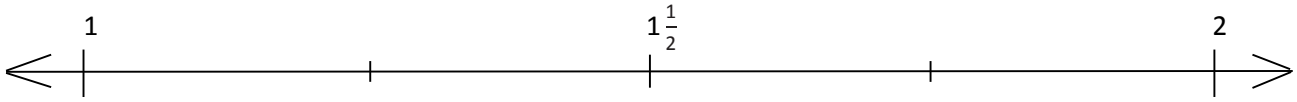


2. Use the number line in Problem 1 to compare the fractions by writing >, <, or = on the lines.

   a. $1\frac{1}{6}$ _____ $1\frac{4}{12}$ b. $1\frac{1}{2}$ _____ $1\frac{4}{5}$

3. Place the following fractions on the number line given.

   a. $\frac{12}{9}$ b. $\frac{6}{5}$ c. $\frac{18}{15}$



4. Use the number line in Problem 3 to explain the reasoning you used when determining whether $\frac{12}{9}$ or $\frac{18}{15}$ was greater.

5. Compare the fractions given below by writing > or < on the lines. Give a brief explanation for each answer referring to benchmarks.

a. $\frac{2}{5}$ _____ $\frac{6}{8}$

b. $\frac{6}{10}$ _____ $\frac{5}{6}$

c. $\frac{6}{4}$ _____ $\frac{7}{8}$

d. $\frac{1}{4}$ _____ $\frac{8}{12}$

e. $\frac{14}{12}$ _____ $\frac{11}{6}$

f. $\frac{8}{9}$ _____ $\frac{3}{2}$

g. $\frac{7}{8}$ _____ $\frac{11}{10}$

h. $\frac{3}{4}$ _____ $\frac{4}{3}$

i. $\frac{3}{8}$ _____ $\frac{3}{2}$

j. $\frac{9}{6}$ _____ $\frac{16}{12}$

Name _____ Date _____

1. Compare the pairs of fractions by reasoning about the size of the units. Use >, <, or =.

   a. 1 third _____ 1 sixth

   b. 2 halves _____ 2 thirds

   c. 2 fourths _____ 2 sixths

   d. 5 eighths _____ 5 tenths

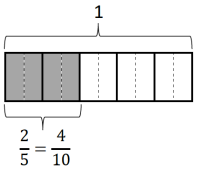
2. Compare by reasoning about the following pairs of fractions with the same or related numerators. Use >, <, or =. Explain your thinking using words, pictures, or numbers. Problem 2(b) has been done for you.

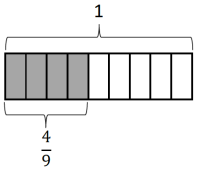
   a. $\frac{3}{6}$ _____ $\frac{3}{7}$

   b. $\frac{2}{5} < \frac{4}{9}$

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

   4 tenths is less than 4 ninths because tenths are smaller than ninths.





   c. $\frac{3}{11}$ _____ $\frac{3}{13}$

   d. $\frac{5}{7}$ _____ $\frac{10}{13}$

3. Draw two tape diagrams to model each pair of the following fractions with related denominators. Use >, <, or = to compare.

   a. $\frac{3}{4}$ _____ $\frac{7}{12}$

   b. $\frac{2}{4}$ _____ $\frac{1}{8}$

   c. $1\frac{4}{10}$ _____ $1\frac{3}{5}$

4. Draw one number line to model each pair of fractions with related denominators. Use >, <, or = to compare.

a. $\frac{3}{4}$ _____ $\frac{5}{8}$

b. $\frac{11}{12}$ _____ $\frac{3}{4}$

c. $\frac{4}{5}$ _____ $\frac{7}{10}$

d. $\frac{8}{9}$ _____ $\frac{2}{3}$

5. Compare each pair of fractions using >, <, or =. Draw a model if you choose to.

a. $\frac{1}{7}$ _____ $\frac{2}{7}$

b. $\frac{5}{7}$ _____ $\frac{11}{14}$

c. $\frac{7}{10}$ _____ $\frac{3}{5}$

d. $\frac{2}{3}$ _____ $\frac{9}{15}$

e. $\frac{3}{4}$ _____ $\frac{9}{12}$

f. $\frac{5}{3}$ _____ $\frac{5}{2}$

6. Simon claims $\frac{4}{9}$ is greater than $\frac{1}{3}$. Ted thinks $\frac{4}{9}$ is less than $\frac{1}{3}$. Who is correct? Support your answer with a picture.

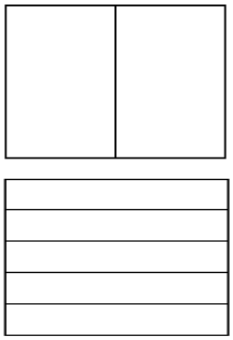
Name _____ Date _____

1. Draw an area model for each pair of fractions, and use it to compare the two fractions by writing >, <, or = on the line. The first two have been partially done for you. Each rectangle represents 1.

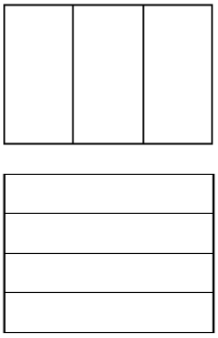
a. $\frac{1}{2}$ _____ < _____ $\frac{3}{5}$

$\frac{1\times5}{2\times5} = \frac{5}{10}$ $\frac{3\times2}{5\times2} = \frac{6}{10}$

$\frac{5}{10} < \frac{6}{10}$, so $\frac{1}{2} < \frac{3}{5}$



b. $\frac{2}{3}$ _____ $\frac{3}{4}$



c. $\frac{4}{6}$ _____ $\frac{5}{8}$

d. $\frac{2}{7}$ _____ $\frac{3}{5}$

e. $\frac{4}{6}$ _____ $\frac{6}{9}$

f. $\frac{4}{5}$ _____ $\frac{5}{6}$

2. Rename the fractions, as needed, using multiplication in order to compare each pair of fractions by writing >, <, or =.

a. $\frac{2}{3}$ _____ $\frac{2}{4}$

b. $\frac{4}{7}$ _____ $\frac{1}{2}$

c. $\frac{5}{4}$ _____ $\frac{9}{8}$

d. $\frac{8}{12}$ _____ $\frac{5}{8}$

3. Use any method to compare the fractions. Record your answer using >, <, or =.

a. $\frac{8}{9}$ _____ $\frac{2}{3}$

b. $\frac{4}{7}$ _____ $\frac{4}{5}$

c. $\frac{3}{2}$ _____ $\frac{9}{6}$

d. $\frac{11}{7}$ _____ $\frac{5}{3}$

4. Explain which method you prefer using to compare fractions. Provide an example using words, pictures, or numbers.

Name _____ Date _____

1. Solve.

   a. 3 sixths – 2 sixths = _____

   b. 5 tenths – 3 tenths = _____

   c. 3 fourths – 2 fourths = _____

   d. 5 thirds – 2 thirds = _____

2. Solve.

   a. $\frac{3}{5} - \frac{2}{5}$

   b. $\frac{7}{9} - \frac{3}{9}$

   c. $\frac{7}{12} - \frac{3}{12}$

   d. $\frac{6}{6} - \frac{4}{6}$

   e. $\frac{5}{3} - \frac{2}{3}$

   f. $\frac{7}{4} - \frac{5}{4}$

3. Solve. Use a number bond to decompose the difference. Record your final answer as a mixed number. Problem (a) has been completed for you.

   a. $\frac{12}{6} - \frac{3}{6} = \frac{9}{6} = 1\frac{3}{6}$

   $\frac{9}{6}$ decomposes into $\frac{6}{6}$ and $\frac{3}{6}$

   b. $\frac{17}{8} - \frac{6}{8}$

   c. $\frac{9}{5} - \frac{3}{5}$

   d. $\frac{11}{4} - \frac{6}{4}$

   e. $\frac{10}{7} - \frac{2}{7}$

   f. $\frac{21}{10} - \frac{9}{10}$

4. Solve. Write the sum in unit form.

   a. 4 fifths + 2 fifths = _____

   b. 5 eighths + 2 eighths = _____

5. Solve.

   a. $\frac{3}{11} + \frac{6}{11}$

   b. $\frac{3}{10} + \frac{6}{10}$

6. Solve. Use a number bond to decompose the sum. Record your final answer as a mixed number.

   a. $\frac{3}{4} + \frac{3}{4}$

   b. $\frac{8}{12} + \frac{6}{12}$

   c. $\frac{5}{8} + \frac{7}{8}$

   d. $\frac{8}{10} + \frac{5}{10}$

   e. $\frac{3}{5} + \frac{6}{5}$

   f. $\frac{4}{3} + \frac{2}{3}$

7. Solve. Use a number line to model your answer.

   a. $\frac{11}{9} - \frac{5}{9}$

   b. $\frac{13}{12} + \frac{4}{12}$

Name _____ Date _____

1. Use the following three fractions to write two subtraction and two addition number sentences.

a. $\frac{5}{6}, \frac{4}{6}, \frac{9}{6}$	b. $\frac{5}{9}, \frac{13}{9}, \frac{8}{9}$

2. Solve. Model each subtraction problem with a number line, and solve by both counting up and subtracting.

a. $1 - \frac{5}{8}$

b. $1 - \frac{2}{5}$

c. $1\frac{3}{6} - \frac{5}{6}$

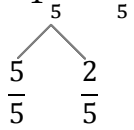
d. $1 - \frac{1}{4}$

e. $1\frac{1}{3} - \frac{2}{3}$

f. $1\frac{1}{5} - \frac{2}{5}$

3. Find the difference in two ways. Use number bonds to decompose the total. Part (a) has been completed for you.

a. $1\frac{2}{5} - \frac{4}{5}$



$\frac{5}{5} + \frac{2}{5} = \frac{7}{5}$

$\frac{7}{5} - \frac{4}{5} = \frac{3}{5}$

$\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$

$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$

b. $1\frac{3}{8} - \frac{7}{8}$

c. $1\frac{1}{4} - \frac{3}{4}$

d. $1\frac{2}{7} - \frac{5}{7}$

e. $1\frac{3}{10} - \frac{7}{10}$

Name _____ Date _____

1. Show one way to solve each problem. Express sums and differences as a mixed number when possible. Use number bonds when it helps you. Part (a) is partially completed.

a. $\frac{1}{3} + \frac{2}{3} + \frac{1}{3}$ $= \frac{3}{3} + \frac{1}{3} = 1 + \frac{1}{3}$ = _____	b. $\frac{5}{8} + \frac{5}{8} + \frac{3}{8}$	c. $\frac{4}{6} + \frac{6}{6} + \frac{1}{6}$
d. $1\frac{2}{12} - \frac{2}{12} - \frac{1}{12}$	e. $\frac{5}{7} + \frac{1}{7} + \frac{4}{7}$	f. $\frac{4}{10} + \frac{7}{10} + \frac{9}{10}$
g. $1 - \frac{3}{10} - \frac{1}{10}$	h. $1\frac{3}{5} - \frac{4}{5} - \frac{1}{5}$	i. $\frac{10}{15} + \frac{7}{15} + \frac{12}{15} + \frac{1}{15}$

2. Bonnie used two different strategies to solve $\frac{5}{10}+\frac{4}{10}+\frac{3}{10}$.

Bonnie's First Strategy

$$\frac{5}{10}+\frac{4}{10}+\frac{3}{10}=\frac{9}{10}+\frac{3}{10}=\frac{10}{10}+\frac{2}{10}=1\frac{2}{10}$$

$\frac{1}{10}$ $\frac{2}{10}$

Bonnie's Second Strategy

$$\frac{5}{10}+\frac{4}{10}+\frac{3}{10}=\frac{12}{10}=1+\frac{2}{10}=1\frac{2}{10}$$

$\frac{10}{10}$ $\frac{2}{10}$

Which strategy do you like best? Why?

3. You gave one solution for each part of Problem 1. Now, for each problem indicated below, give a different solution method.

1(b) $\frac{5}{8}+\frac{5}{8}+\frac{3}{8}$

1(e) $\frac{5}{7}+\frac{1}{7}+\frac{4}{7}$

1(h) $1\frac{3}{5}-\frac{4}{5}-\frac{1}{5}$

Name _____ Date _____

Use the RDW process to solve.

1. Isla walked $\frac{3}{4}$ mile each way to and from school on Wednesday. How many miles did Isla walk that day?

2. Zach spent $\frac{2}{3}$ hour reading on Friday and $1\frac{1}{3}$ hours reading on Saturday. How much more time did he read on Saturday than on Friday?

3. Mrs. Cashmore bought a large melon. She cut a piece that weighed $1\frac{1}{8}$ pounds and gave it to her neighbor. The remaining piece of melon weighed $\frac{6}{8}$ pound. How much did the whole melon weigh?

4. Ally's little sister wanted to help her make some oatmeal cookies. First, she put $\frac{5}{8}$ cup of oatmeal in the bowl. Next, she added another $\frac{5}{8}$ cup of oatmeal. Finally, she added another $\frac{5}{8}$ cup of oatmeal. How much oatmeal did she put in the bowl?

5. Marcia baked 2 pans of brownies. Her family ate $1\frac{5}{6}$ pans. What fraction of a pan of brownies was left?

6. Joanie wrote a letter that was $1\frac{1}{4}$ pages long. Katie wrote a letter that was $\frac{3}{4}$ page shorter than Joanie's letter. How long was Katie's letter?

Name _____ Date _____

1. Use a tape diagram to represent each addend. Decompose one of the tape diagrams to make like units. Then, write the complete number sentence.

a. $\frac{1}{3} + \frac{1}{6}$

b. $\frac{1}{2} + \frac{1}{4}$

c. $\frac{3}{4} + \frac{1}{8}$

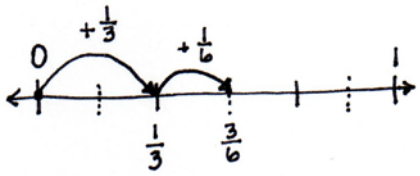
d. $\frac{1}{4} + \frac{5}{12}$

e. $\frac{3}{8} + \frac{1}{2}$

f. $\frac{3}{5} + \frac{3}{10}$

2. Estimate to determine if the sum is between 0 and 1 or 1 and 2. Draw a number line to model the addition. Then, write a complete number sentence. The first one has been completed for you.

a. $\frac{1}{3} + \frac{1}{6}$ $\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$



b. $\frac{3}{5} + \frac{7}{10}$

c. $\frac{5}{12} + \frac{1}{4}$

d. $\frac{3}{4} + \frac{5}{8}$

e. $\frac{7}{8} + \frac{3}{4}$

f. $\frac{1}{6} + \frac{5}{3}$

3. Solve the following addition problem without drawing a model. Show your work.

$$\frac{5}{6} + \frac{1}{3}$$

Name _____ Date _____

1. Draw a tape diagram to represent each addend. Decompose one of the tape diagrams to make like units. Then, write a complete number sentence. Use a number bond to write each sum as a mixed number.

a. $\frac{7}{8} + \frac{1}{4}$

b. $\frac{4}{8} + \frac{2}{4}$

c. $\frac{4}{6} + \frac{1}{2}$

d. $\frac{3}{5} + \frac{8}{10}$

2. Draw a number line to model the addition. Then, write a complete number sentence. Use a number bond to write each sum as a mixed number.

a. $\frac{1}{2} + \frac{5}{8}$

b. $\frac{3}{4} + \frac{3}{8}$

c. $\frac{4}{10} + \frac{4}{5}$

d. $\frac{1}{3} + \frac{5}{6}$

3. Solve. Write the sum as a mixed number. Draw a model if needed.

a. $\frac{1}{2} + \frac{6}{8}$

b. $\frac{7}{8} + \frac{3}{4}$

c. $\frac{5}{6} + \frac{1}{3}$

d. $\frac{9}{10} + \frac{2}{5}$

e. $\frac{4}{12} + \frac{3}{4}$

f. $\frac{1}{2} + \frac{5}{6}$

g. $\frac{3}{12} + \frac{5}{6}$

h. $\frac{7}{10} + \frac{4}{5}$

Mission 6: Decimal Fractions

Section One: Student Notes and Exit Tickets

To complete with all digital lessons

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Mission 6

Decimal Fractions

Name:_____

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Fourth Edition

Lesson 1 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Fill in the blank to make the sentence true in both fraction form and decimal form.

   a. $\frac{9}{10}$ cm + _____ cm = 1 cm 0.9 cm + _____ cm = 1.0 cm

   b. $\frac{4}{10}$ cm + _____ cm = 1 cm 0.4 cm + _____ cm = 1.0 cm

2. Match each amount expressed in unit form to its fraction form and decimal form.

3 tenths	$\frac{5}{10}$	0.8
8 tenths	$\frac{8}{10}$	0.3
5 tenths	$\frac{3}{10}$	0.5

Lesson 2 G:4 M:6	Shaded Fractions, Shaded Decimals
	ZEARN STUDENT NOTES

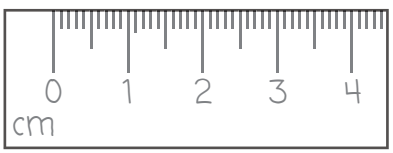
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

You will need a centimeter ruler for this lesson.

1 Using the centimeter ruler, draw a line that measures 2 cm. Then, extend the line by $\frac{6}{10}$ cm.

DRAW



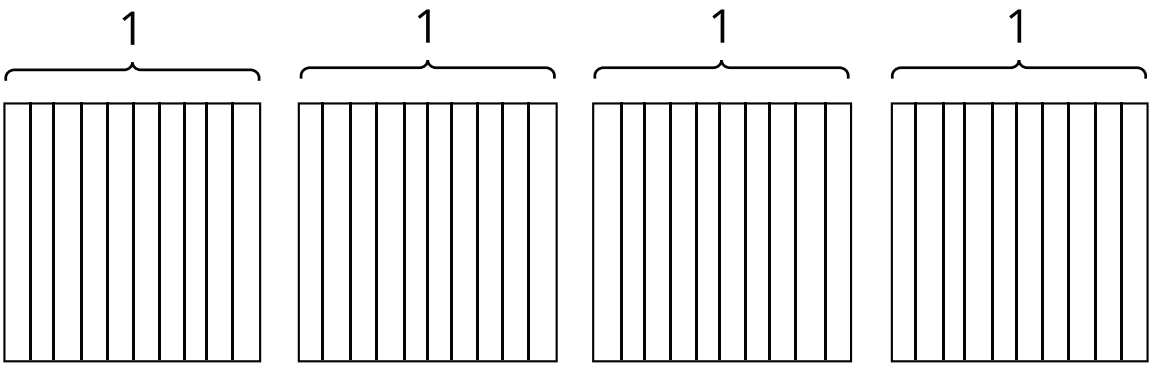
SOLVE

Fraction equation: _____ cm + _____ cm = _____ cm

Decimal equation: _____ cm + _____ cm = _____ cm

2 Shade to represent $3\frac{2}{10}$ using the area models.

SHOW YOUR WORK



Decimal equation: _____ = _____ + _____

We need _____ more to make 4 wholes.

EXTRA WORKSPACE

Lesson 2 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

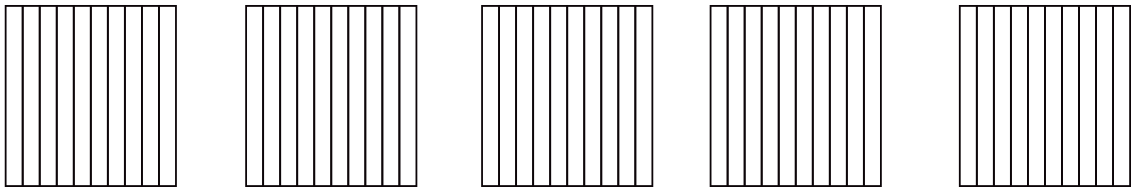
Complete: ☐ **Class:**_____

1. For the length given below, draw a line segment to match. Express the measurement as an equivalent mixed number.

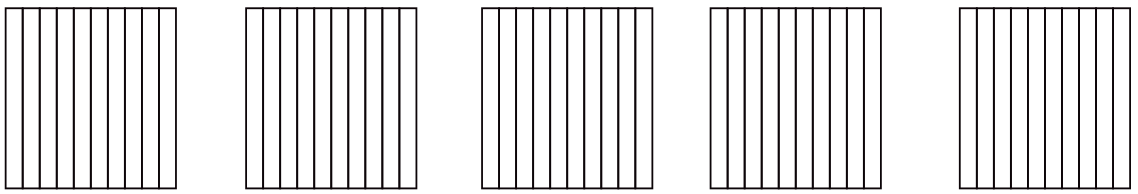
4.8 cm

2. Write the following in decimal form and as a mixed number. Shade the area model to match.

a. 3 ones and 7 tenths = _____ = _____



b. $\frac{24}{10}$ = _____= _____



How much more is needed to get to 5? _____

Lesson 3 G:4 M:6	Equivalence Extravaganza ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Write the value represented by these place value disks in unit form and standard form. Then solve.

↓ ↓ ↓

_____tens + _____ones + _____tenths

↓ ↓ ↓

_____ + _____ + _____ = _____

= _____

EXTRA WORKSPACE

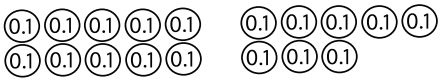
Lesson 3
G:4 M:6

EXIT TICKET

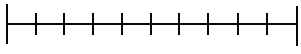
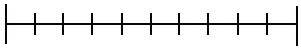
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Circle groups of tenths to make as many ones as possible.

How many tenths in all?	Write and draw the same number using ones and tenths.
 There are _____ tenths.	Decimal Form: _____ How much more is needed to get to 2? _____

2. Complete the chart.

Point	Number Line	Decimal Form	Mixed Number (ones and fractions form)	Expanded Form (Fraction or decimal form)	How much to get to the next one?
a.			$12\frac{9}{10}$		
b.		70.7			

Lesson 4 G:4 M:6	From Tenths to Hundredths
	ZEARN STUDENT NOTES

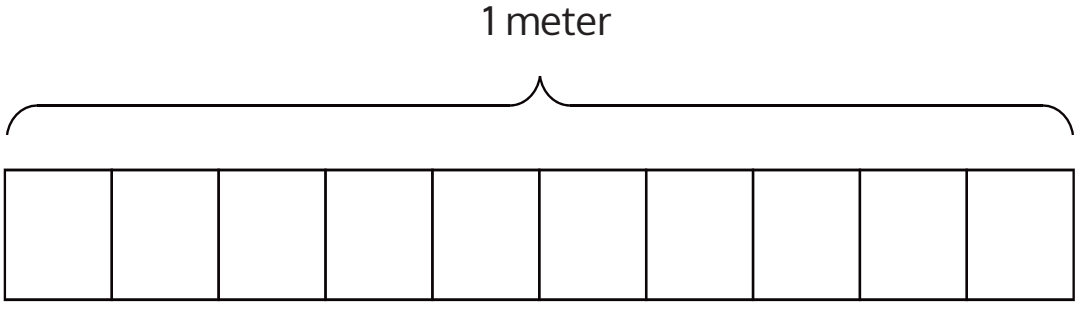
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Shade in the amount shown. Then, write the equivalent decimal.

SHOW YOUR WORK

$\frac{5}{10}$ m = _____ m



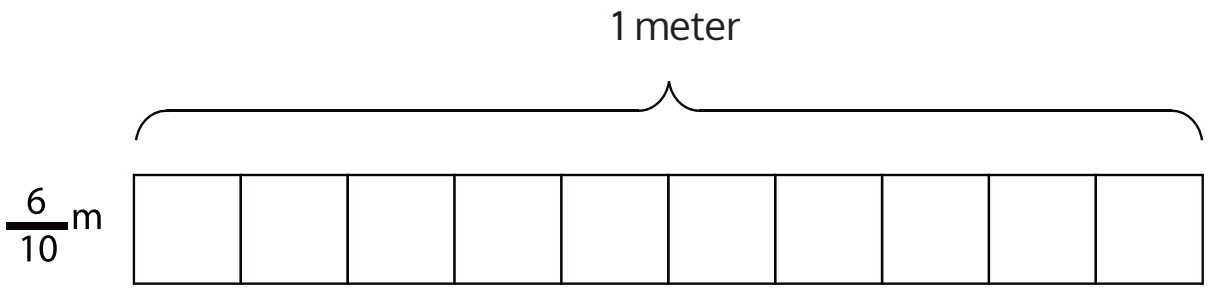
EXTRA WORKSPACE

Lesson 4 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Shade in the amount shown. Then, write the equivalent decimal.



= _____

2. Draw a number bond, pulling out the tenths from the hundredths. Write the total as the equivalent decimal.

a. $\frac{62}{100}$ m

b. $\frac{27}{100}$ m

Lesson 5 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Use both tenths and hundredths number disks to represent each fraction. Write the equivalent decimal, and fill in the blanks to represent each in unit form.

a. $\frac{7}{100}$ = 0._____

_____ hundredths

b. $\frac{34}{100}$ = 0._____

_____ tenths _____ hundredths

Lesson 6 G:4 M:6	Zoom! Plot! ZEARN STUDENT NOTES

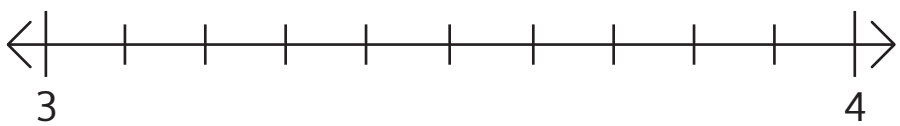
Name:_____ Date:_____

Complete: ☐ Class:_____

1 Show $3\frac{46}{100}$ on the number line.

SHOW YOUR WORK

$3\frac{46}{100}$



EXTRA WORKSPACE

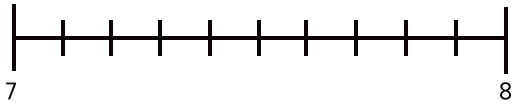
Lesson 6 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

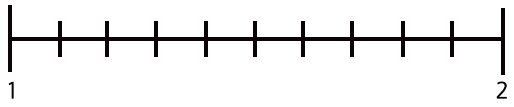
Complete: ☐ **Class:**_____

1. Estimate to locate the points on the number lines. Mark the point, and label it as a decimal.

   a. $7\frac{20}{100}$

   b. $1\frac{75}{100}$

2. Write the equivalent fraction and decimal for each number.

   a. 8 ones 24 hundredths

   b. 2 ones 6 hundredths

Lesson 7 G:4 M:6	Expand
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Write 340.83 in expanded form using fraction notation and decimal notation.

FRACTION NOTATION

DECIMAL NOTATION

EXTRA WORKSPACE

Lesson 7 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Use the place value chart to answer the following questions. Express the value of the digit in unit form.

hundreds	tens	ones	.	tenths	hundredths
8	2	7		6	4

a. The digit _____ is in the hundreds place. It has a value of _____.

b. The digit _____ is in the tens place. It has a value of _____.

c. The digit _____ is in the tenths place. It has a value of _____.

d. The digit _____ is in the hundredths place. It has a value of _____.

2. Complete the following chart.

Fraction	Expanded Form		Decimal
	Fraction Notation	Decimal Notation	
$422\frac{8}{100}$			
	$(3 \times 100) + (9\frac{1}{10}) + (2\frac{1}{100})$		

Lesson 8 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Draw number disks to represent the following decomposition.

   a. 3 ones 2 tenths = _____ tenths

ones	.	tenths	hundredths

   b. 3 ones 2 tenths = _____ hundredths

2. Decompose the units.

   a. 2.6 = _____ tenths

   b. 6.1 = _____ hundredths

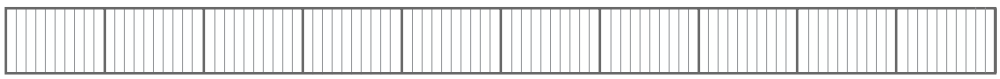
Lesson 9 G:4 M:6	PVC, Easy as 0.1, 0.2, 0.3
	ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

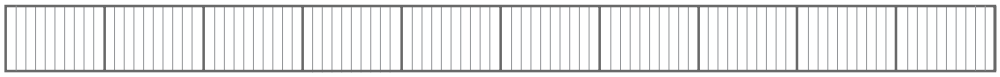
1 Shade the tape diagrams to represent the length of each shaded meter stick. Then, write a sentence to compare the lengths.

B



0.41 m

G



0.35 m

	ones (meters)	tenths	hundredths
B			
G			

Tape _____ is longer than tape _____ because

_____ meters is longer than _____ meters.

2 Record the weight of each object in the place value chart. Then, find the lightest object.

	ones	tenths	hundredths
Orange			
Apple			
Book			

The _____ weighs less than the _____

and the _____.

3 Record the volume of each graduated cylinder in the place value chart. Then, order the cylinders from least volume to greatest volume.

	ones	tenths	hundredths
A			
B			
C			
D			

_____

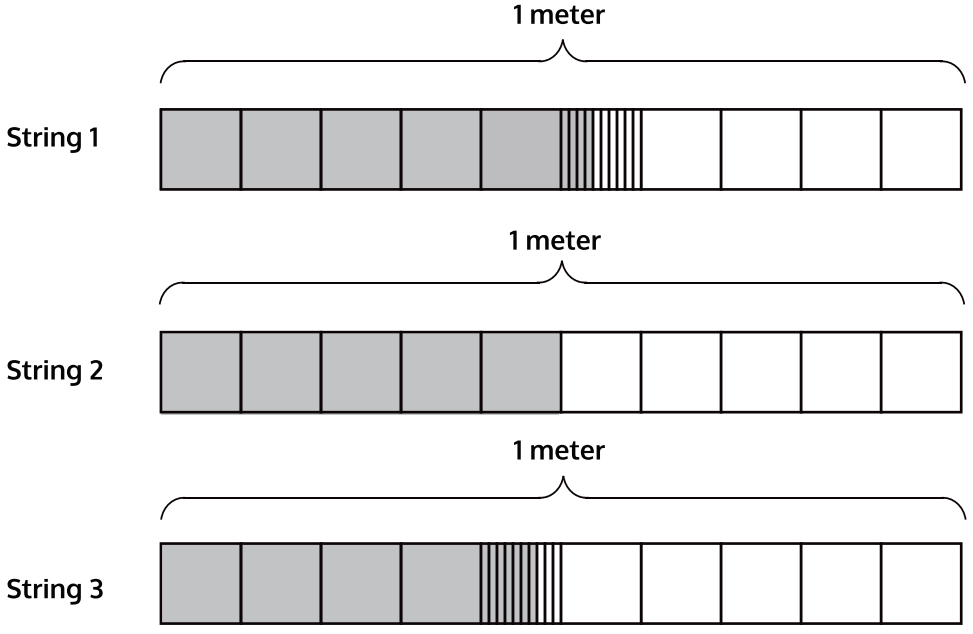
Lesson 9 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Doug measures the lengths of three strings and shades tape diagrams to represent the length of each string, as shown below.

   a. Express, in decimal form, the length of each string.



   b. List the lengths of the strings in order from greatest to least.

_____ _____ _____

2. Compare the values below using >, <, or =.

a. 0.8 kg ◯ 0.6 kg

b. 0.36 kg ◯ 0.5 kg

c. 0.4 kg ◯ 0.47 kg

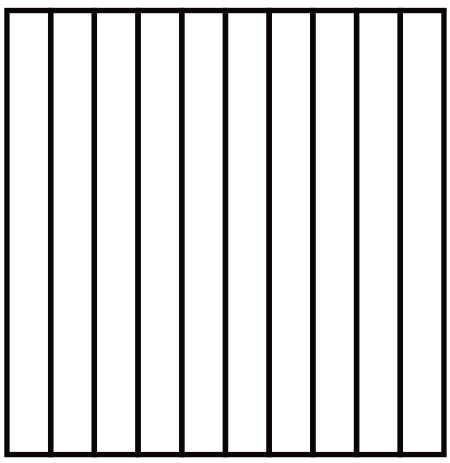
Lesson 10 G:4 M:6	EXIT TICKET

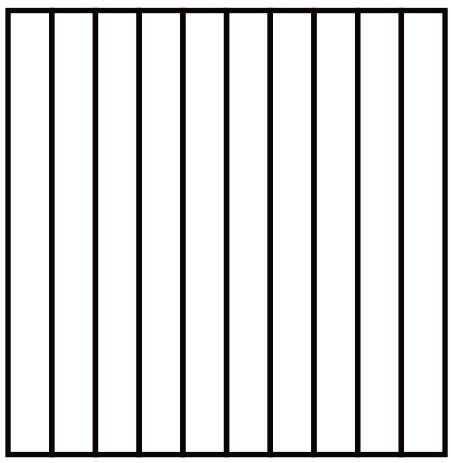
Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Ryan says that 0.6 is less than 0.60 because it has fewer digits. Jessie says that 0.6 is greater than 0.60. Who is right? Why? Use the area models below to help explain your answer.

0.6 _____ 0.60





2. Use the symbols <, >, or = to compare.

a. 3.9 ◯ 3.09

b. 2.4 ◯ 2 ones and 4 hundredths

c. 7.84 ◯ 78 tenths and 4 hundredths

Lesson 12 G:4 M:6	Add Your Understanding
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Solve $\frac{3}{4} + \frac{1}{2}$.

SHOW YOUR WORK

2 Solve $\frac{6}{10} + \frac{57}{100}$.

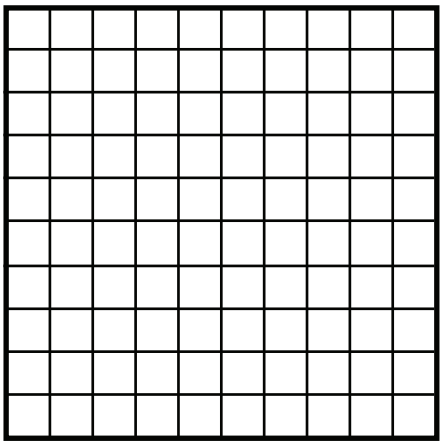
Write your answer as a decimal.

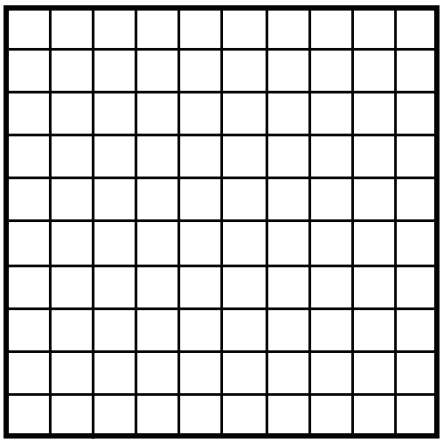
SHOW YOUR WORK

3 Model $\frac{9}{10} + \frac{64}{100}$ using the area models.

Then, solve and write your final answer as a decimal.

SHOW YOUR WORK





Lesson 12 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Complete the number sentence by expressing each part using hundredths. Use the place value chart to model.

ones	.	tenths	hundredths

1 tenth + 9 hundredths = _____ hundredths

2. Find the sum. Write your answer as a decimal.

$$\frac{4}{10} + \frac{73}{100}$$

Lesson 13 G:4 M:6	Decimal + Decimal
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Solve 0.30 + 0.5

Express your answer as a decimal number.

SHOW YOUR WORK

2

Rewrite 5.6 + 4.53 as the sum of two mixed numbers. Solve. Then, rewrite your number sentence in decimal form.

SHOW YOUR WORK

DECIMAL FORM

Lesson 13 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Solve by rewriting the number sentence in fraction form. After solving, rewrite the complete number sentence in decimal form.

a. 7.3 + 0.95

b. 8.29 + 5.9

Lesson 14 G:4 M:6	For Good Measure
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 A team of three friends ran a relay race. Camille ran the fastest, measuring 29.2 seconds. Marco was 1.89 seconds slower than Camille. Laina ran 0.9 seconds slower than Marco.

What was the team's total time for the race?

DRAW

SOLVE

The team's total was _____ seconds.

EXTRA WORKSPACE

Lesson 14 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Elise ran 6.43 kilometers on Saturday and 5.6 kilometers on Sunday.

   How many total kilometers did she run on Saturday and Sunday?

SHOW YOUR WORK

Lesson 15 G:4 M:6	Money, Money, Money! ZEARN STUDENT NOTES

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1 Give the total amount of money in fraction and decimal form.

3 quarters and 4 dimes

SHOW YOUR WORK

Fraction: _____ Mixed Number: _____

Decimal: _____

EXTRA WORKSPACE

Lesson 15 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

Complete: ☐ **Class:**_____

1. Solve. Give the total amount of money in fraction and decimal form.

a. 2 quarters and 3 dimes

b. 1 quarter, 7 dimes, and 23 pennies

2. Solve. Express the answer as a decimal.

2 dollars 1 quarter 14 pennies + 3 dollars 2 quarters 3 dimes

Lesson 16 G:4 M:6	Mo' Money, Mo' Math
	ZEARN STUDENT NOTES

Name:_____ Date:_____

Complete: ☐ Class:_____

1 Jose wants to buy a pen for $2.70, a box of pencils for $3.39 and an eraser for $1.86.

How much will he spend in total?

DRAW

SOLVE

Jose will spend _____ .

2 Jose has 6 ones, 3 quarters, 2 dimes, and 9 pennies.

Is that enough money to buy the pen, box of pencils, and eraser?

SHOW YOUR WORK

_____

_____

EXTRA WORKSPACE

Lesson 16 G:4 M:6	EXIT TICKET

Name:_____ **Date:**_____

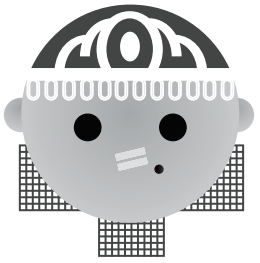
Complete: ☐ **Class:**_____

Use the RDW process to solve. Write your answer as a decimal.

1. David's mother told him that he could keep all the money he found under the sofa cushions in their house. David found 6 quarters, 4 dimes, and 26 pennies.

   How much money did David find altogether?

SHOW YOUR WORK



Congratulations!

You completed

Grade 4 Mission 6

Decimal Fractions

Name ..... Date .....

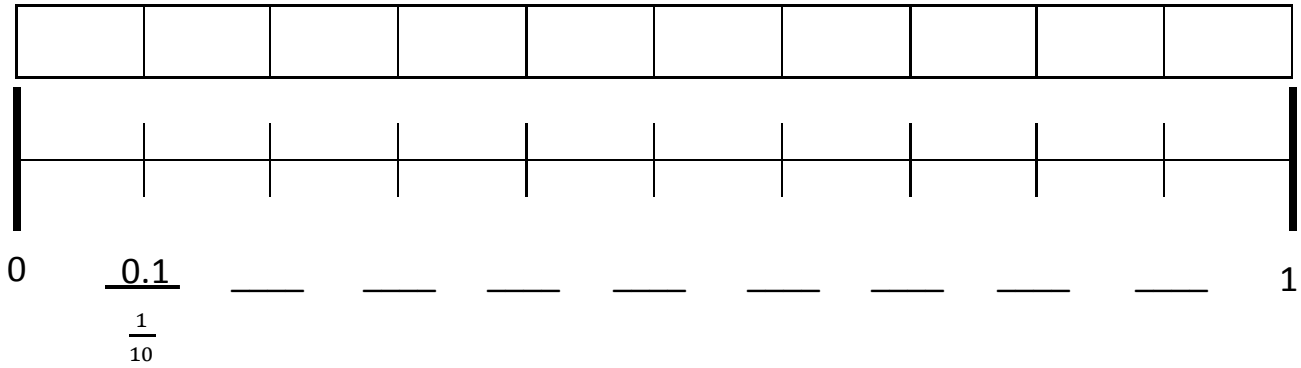
Zearned it!

Section Two: Problem Sets and Homework

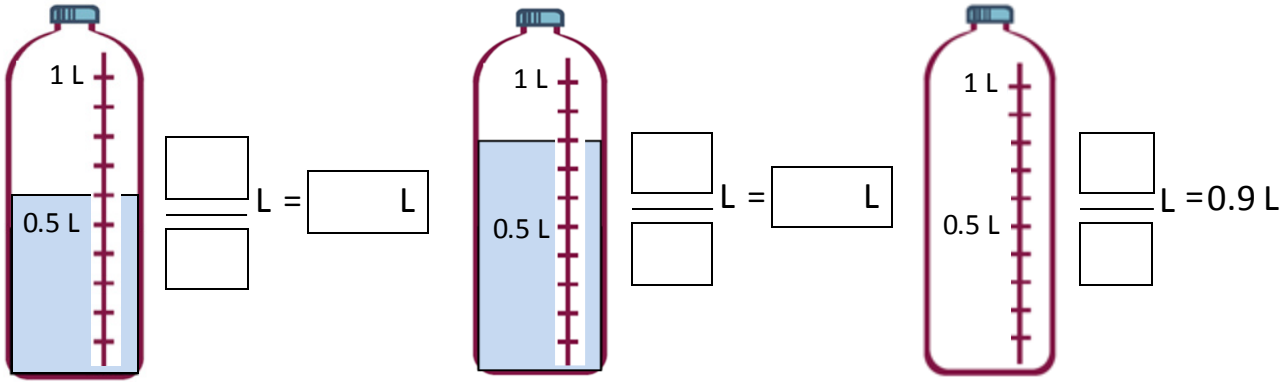
To complete if internet access is not available

Name _____ Date _____

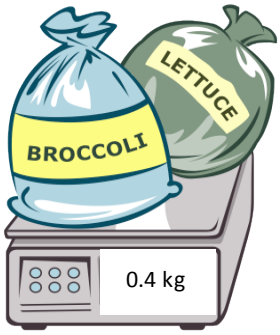
1. Shade the first 7 units of the tape diagram. Count by tenths to label the number line using a fraction and a decimal for each point. Circle the decimal that represents the shaded part.



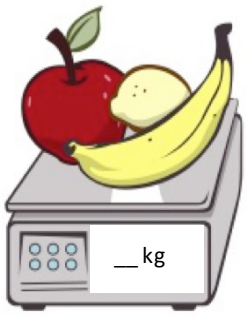
2. Write the total amount of water in fraction form and decimal form. Shade the last bottle to show the correct amount.



3. Write the total weight of the food on each scale in fraction form or decimal form.



kg



$\frac{8}{10}$ kg

kg

4. Write the length of the bug in centimeters. (The drawing is not to scale.)

Fraction form: _____ cm

Decimal form: _____ cm

How far does the bug need to walk before its nose is at the 1 cm mark? _____ cm

5. Fill in the blank to make the sentence true in both fraction form and decimal form.

a. $\frac{8}{10}$ cm + _____ cm = 1 cm 0.8 cm + _____ cm = 1.0 cm

b. $\frac{2}{10}$ cm + _____ cm = 1 cm 0.2 cm + _____ cm = 1.0 cm

c. $\frac{6}{10}$ cm + _____ cm = 1 cm 0.6 cm + _____ cm = 1.0 cm

6. Match each amount expressed in unit form to its equivalent fraction and decimal forms.

3 tenths	$\frac{5}{10}$	0.2
5 tenths	$\frac{9}{10}$	0.6
6 tenths	$\frac{2}{10}$	0.3
9 tenths	$\frac{3}{10}$	0.5
2 tenths	$\frac{6}{10}$	0.9

Name _____ Date _____

1. For each length given below, draw a line segment to match. Express each measurement as an equivalent mixed number.

   a. 2.6 cm

   b. 3.4 cm

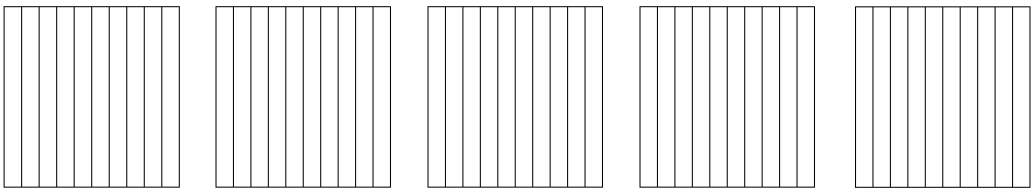
   c. 3.7 cm

   d. 4.2 cm

   e. 2.5 cm

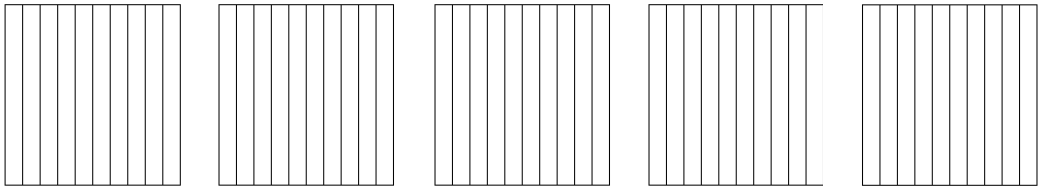
2. Write the following as equivalent decimals. Then, model and rename the number as shown below.

   a. 2 ones and 6 tenths = _____

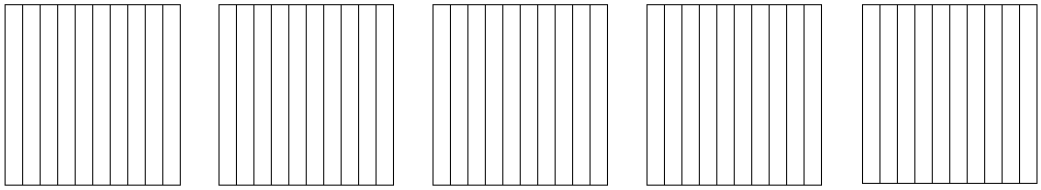


$2\frac{6}{10} = 2 + \frac{6}{10} = 2 + 0.6 = 2.6$

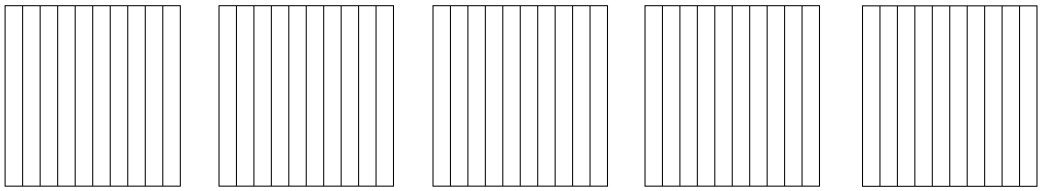
b. 4 ones and 2 tenths = _____



c. $3\frac{4}{10}$ = _____

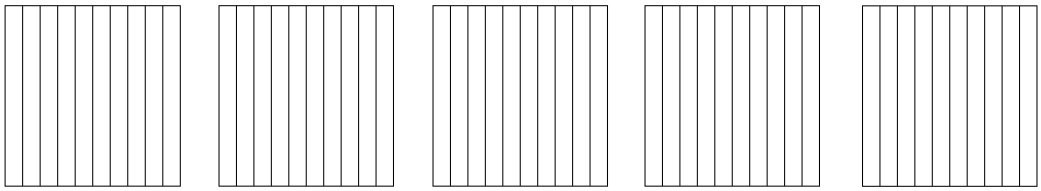


d. $2\frac{5}{10}$ = _____



How much more is needed to get to 5? _____

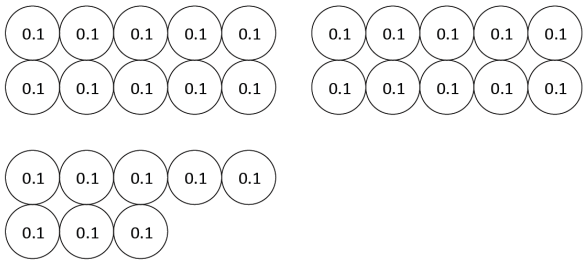
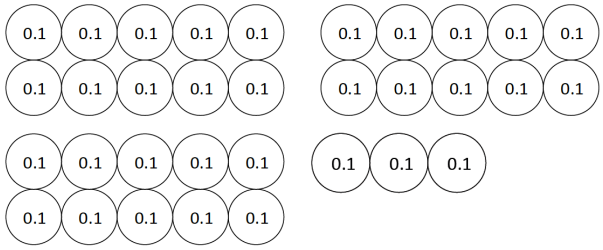
e. $\frac{37}{10}$ = _____



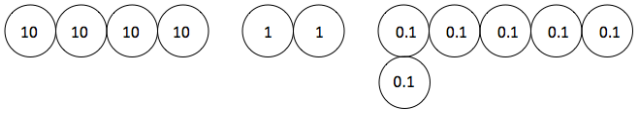
How much more is needed to get to 5? _____

Name _____ Date _____

1. Circle groups of tenths to make as many ones as possible.

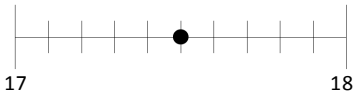
a. How many tenths in all?	Write and draw the same number using ones and tenths.
 There are _____ tenths.	Decimal Form: _____ How much more is needed to get to 3? _____
b. How many tenths in all?	Write and draw the same number using ones and tenths.
 There are _____ tenths.	Decimal Form: _____ How much more is needed to get to 4? _____

2. Draw disks to represent each number using tens, ones, and tenths. Then, show the expanded form of the number in fraction form and decimal form as shown. The first one has been completed for you.

a. 4 tens 2 ones 6 tenths	b. 1 ten 7 ones 5 tenths
 Fraction Expanded Form $(4 \times 10) + (2 \times 1) + (6 \times \frac{1}{10}) = 42\frac{6}{10}$ Decimal Expanded Form $(4 \times 10) + (2 \times 1) + (6 \times 0.1) = 42.6$	

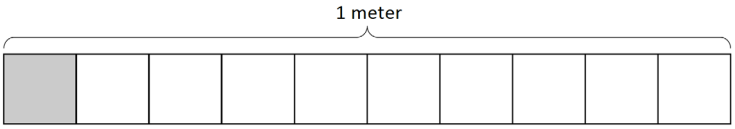
c. 2 tens 3 ones 2 tenths	d. 7 tens 4 ones 7 tenths

3. Complete the chart.

Point	Number Line	Decimal Form	Mixed Number (ones and fraction form)	Expanded Form (fraction or decimal form)	How much to get to the next one?
a.			$3\frac{9}{10}$		0.1
b.					
c.				$(7 \times 10) + (4 \times 1) + (7 \times \frac{1}{10})$	
d.			$22\frac{2}{10}$		
e.				$(8 \times 10) + (8 \times 0.1)$	

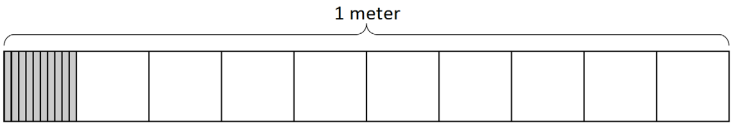
Name _____ Date _____

1. a. What is the length of the shaded part of the meter stick in centimeters?



b. What fraction of a meter is 1 centimeter?

c. In fraction form, express the length of the shaded portion of the meter stick.



d. In decimal form, express the length of the shaded portion of the meter stick.

e. What fraction of a meter is 10 centimeters?

2. Fill in the blanks.

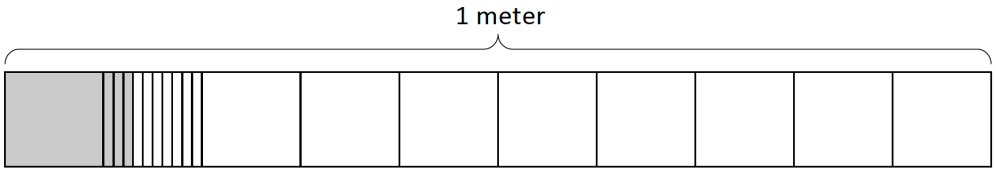
a. 1 tenth = ____ hundredths

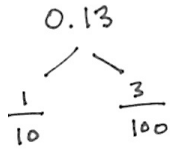
b. $\frac{1}{10}$ m = ____ m

c. $\frac{2}{10}$ m = $\frac{20}{\quad}$ m

3. Use the model to add the shaded parts as shown. Write a number bond with the total written in decimal form and the parts written as fractions. The first one has been done for you.

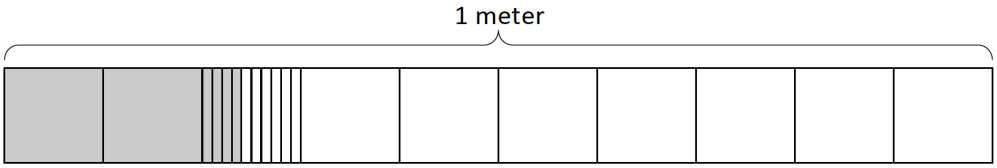
a.



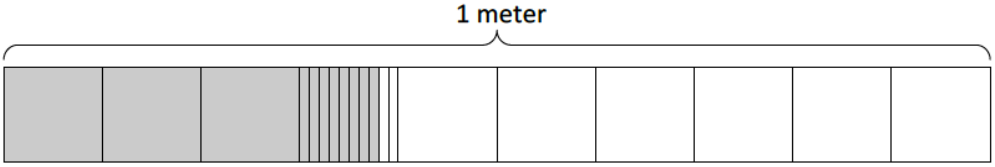


$\frac{1}{10}$ m + $\frac{3}{100}$ m = $\frac{13}{100}$ m = 0.13 m

b.

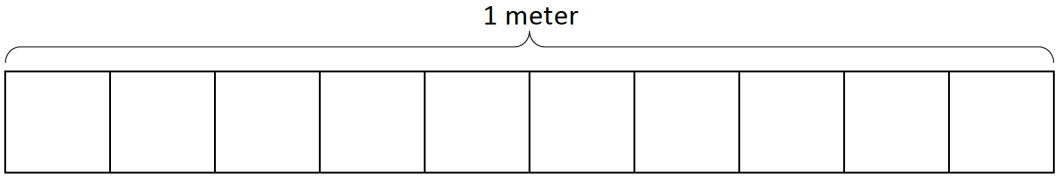


c.

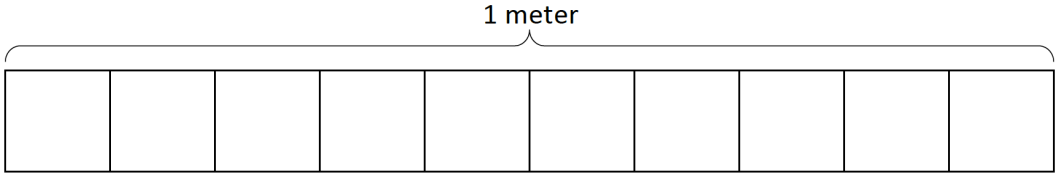


4. On each meter stick, shade in the amount shown. Then, write the equivalent decimal.

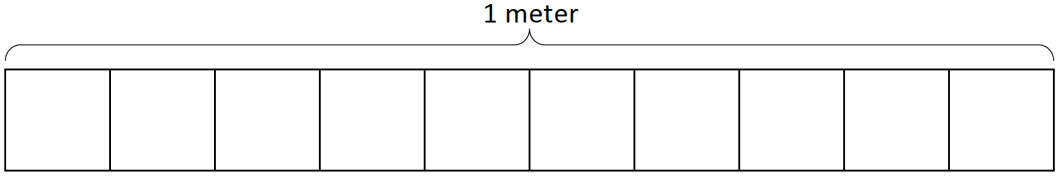
a. $\frac{8}{10}$ m



b. $\frac{7}{100}$ m



c. $\frac{19}{100}$ m



5. Draw a number bond, pulling out the tenths from the hundredths as in Problem 3. Write the total as the equivalent decimal.

a. $\frac{19}{100}$ m

b. $\frac{28}{100}$ m

c. $\frac{77}{100}$

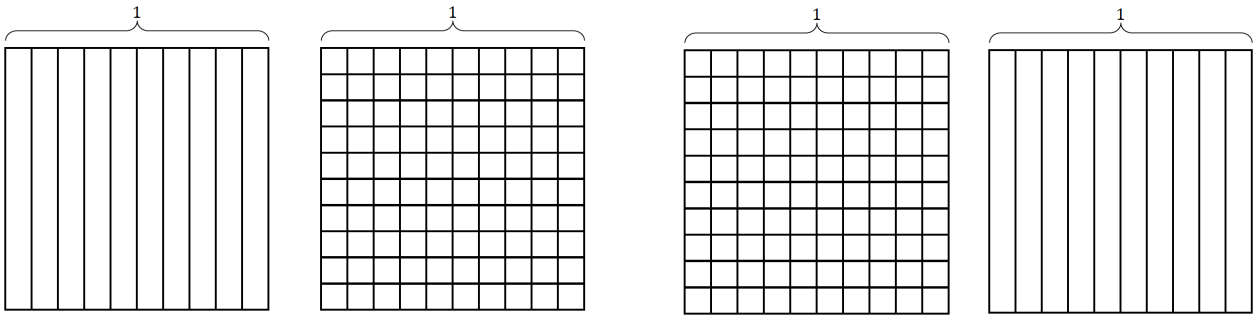
d. $\frac{94}{100}$

Name _____ Date _____

1. Find the equivalent fraction using multiplication or division. Shade the area models to show the equivalency. Record it as a decimal.

a. $\frac{3 \times}{10 \times} = \frac{\quad}{100}$

b. $\frac{50 \div}{100 \div} = \frac{\quad}{10}$

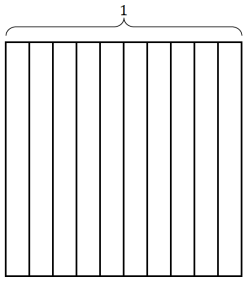


2. Complete the number sentences. Shade the equivalent amount on the area model, drawing horizontal lines to make hundredths.

a. 37 hundredths = _____tenths + ____ hundredths

Fraction form: _____

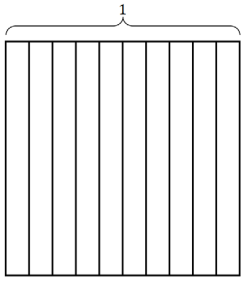
Decimal form: _____



b. 75 hundredths = ____ tenths + ____ hundredths

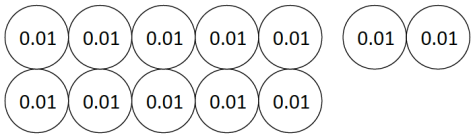
Fraction form: _____

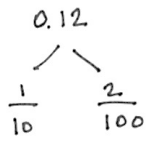
Decimal form: _____



3. Circle hundredths to compose as many tenths as you can. Complete the number sentences. Represent each with a number bond as shown.

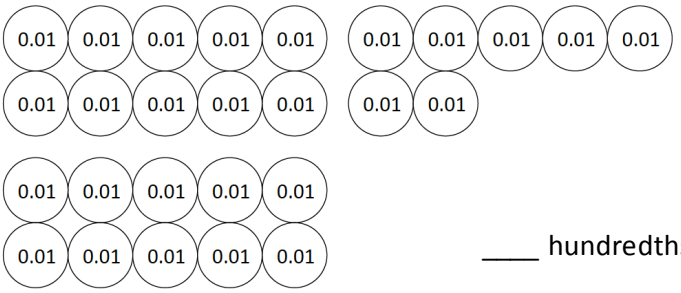
a.





____ hundredths = _____ tenth + _____ hundredths

b.



____ hundredths = _____ tenths + _____ hundredths

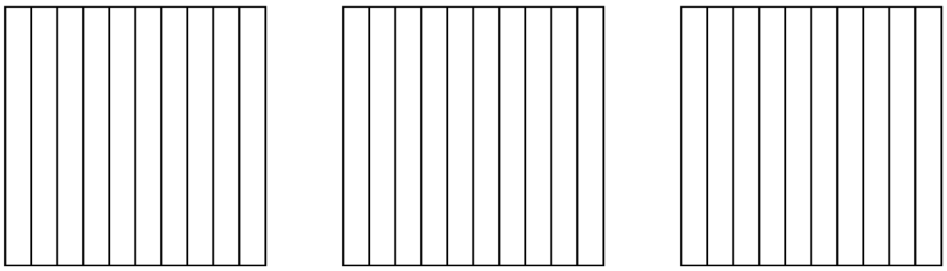
4. Use both tenths and hundredths place value disks to represent each number. Write the equivalent number in decimal, fraction, and unit form.

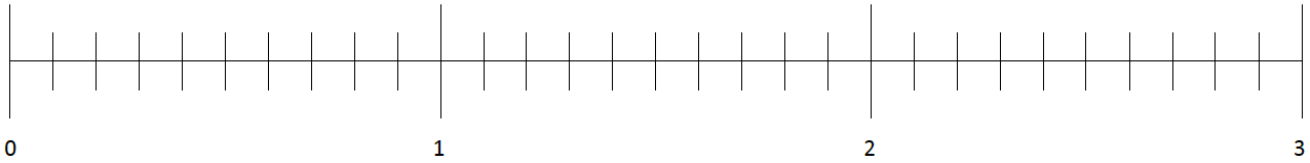
a. $\frac{3}{100}$ = 0. _____ _____ hundredths	b. $\frac{15}{100}$ = 0. _____ _____ tenth _____ hundredths
c. ___ = 0.72 _____ hundredths	d. ___ = 0.80 _____ tenths
e. ___ = 0. _____ 7 tenths 2 hundredths	f. ___ = 0. _____ 80 hundredths

Name _____ Date _____

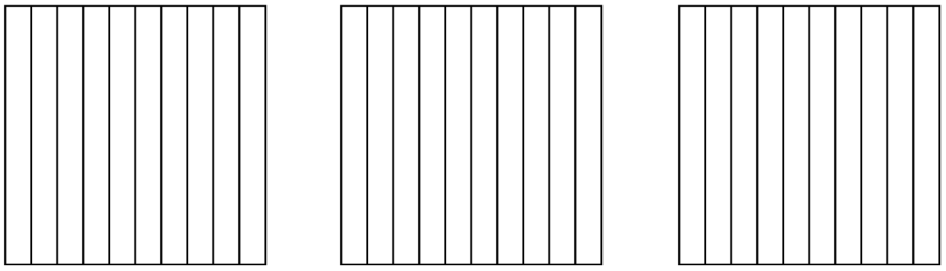
1. Shade the area models to represent the number, drawing horizontal lines to make hundredths as needed. Locate the corresponding point on the number line. Label with a point, and record the mixed number as a decimal.

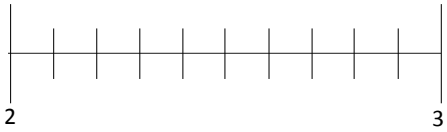
a. $1\frac{15}{100}$ = ___._____





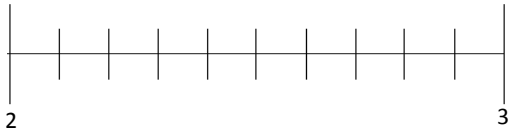
b. $2\frac{47}{100}$ = ___._____



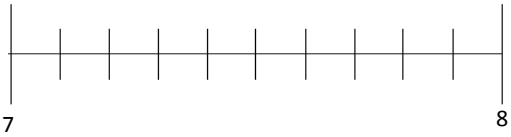


2. Estimate to locate the points on the number lines.

a. $2\frac{95}{100}$



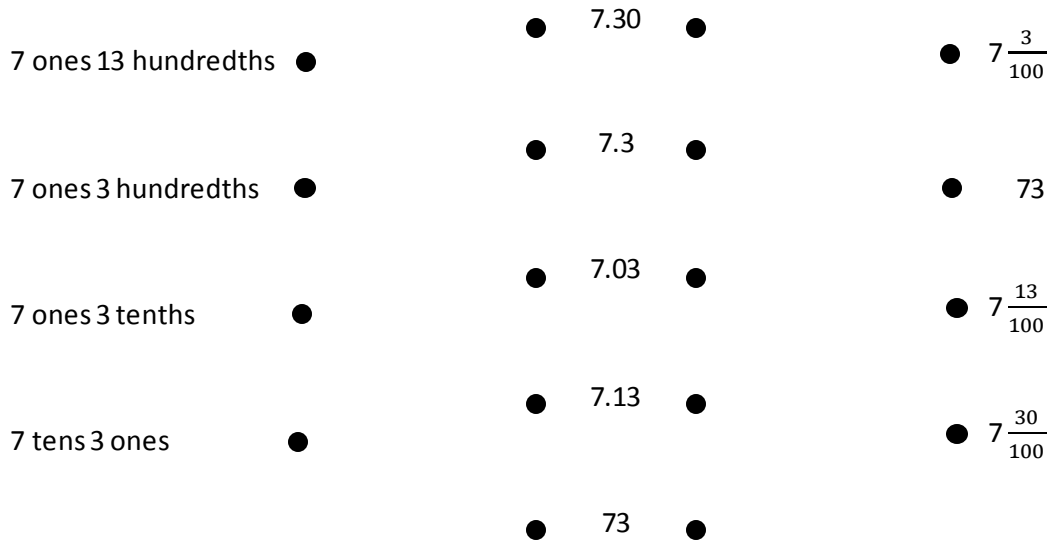
b. $7\frac{52}{100}$



3. Write the equivalent fraction and decimal for each of the following numbers.

a. 1 one 2 hundredths	b. 1 one 17 hundredths
c. 2 ones 8 hundredths	d. 2 ones 27 hundredths
e. 4 ones 58 hundredths	f. 7 ones 70 hundredths

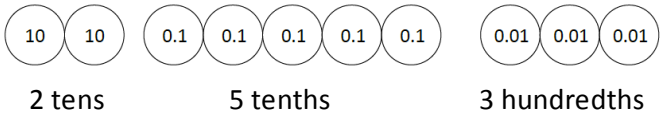
4. Draw lines from dot to dot to match the decimal form to both the unit form and fraction form. All unit forms and fractions have at least one match, and some have more than one match.



Name _____ Date _____

1. Write a decimal number sentence to identify the total value of the place value disks.

a.



2 tens 5 tenths 3 hundredths

_____ + _____ + _____ = _____

b.

5 hundreds 4 hundredths

_____ + _____ = _____

2. Use the place value chart to answer the following questions. Express the value of the digit in unit form.

hundreds	tens	ones	.	tenths	hundredths
4	1	6		8	3

a. The digit _____ is in the hundreds place. It has a value of _____.

b. The digit _____ is in the tens place. It has a value of _____.

c. The digit _____ is in the tenths place. It has a value of _____.

d. The digit _____ is in the hundredths place. It has a value of _____.

hundreds	tens	ones	.	tenths	hundredths
5	3	2		1	6

e. The digit _____ is in the hundreds place. It has a value of _____.

f. The digit _____ is in the tens place. It has a value of _____.

g. The digit _____ is in the tenths place. It has a value of _____.

h. The digit _____ is in the hundredths place. It has a value of _____.

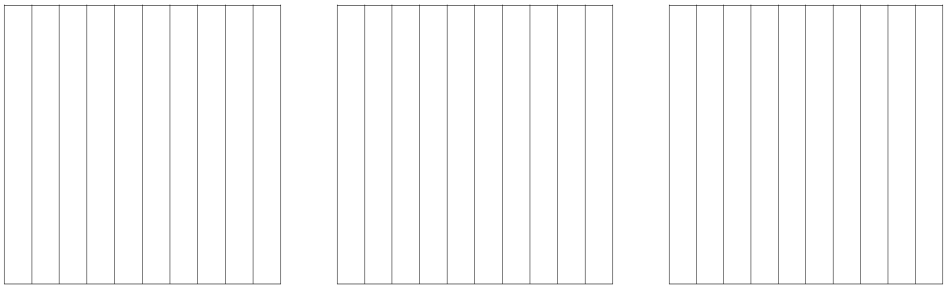
3. Write each decimal as an equivalent fraction. Then, write each number in expanded form, using both decimal and fraction notation. The first one has been done for you.

Decimal and Fraction Form	Expanded Form	
	Fraction Notation	Decimal Notation
$15.43 = 15\frac{43}{100}$	$(1 \times 10) + (5 \times 1) + (4 \times \frac{1}{10}) + (3 \times \frac{1}{100})$ $10 + 5 + \frac{4}{10} + \frac{3}{100}$	$(1 \times 10) + (5 \times 1) + (4 \times 0.1) + (3 \times 0.01)$ $10 + 5 + 0.4 + 0.03$
21.4 = _____		
38.09 = _____		
50.2 = _____		
301.07 = _____		
620.80 = _____		
800.08 = _____		

Name _____ Date _____

1. Use the area model to represent $\frac{250}{100}$. Complete the number sentence.

   a. $\frac{250}{100}$ = _____ tenths = _____ ones _____ tenths = __.____



   b. In the space below, explain how you determined your answer to part (a).

2. Draw place value disks to represent the following decompositions:

   2 ones = _____ tenths

ones	.	tenths	hundredths

   2 tenths = _____ hundredths

ones	.	tenths	hundredths

   1 one 3 tenths = ____ tenths

ones	.	tenths	hundredths

   2 tenths 3 hundredths = ____ hundredths

ones	.	tenths	hundredths

3. Decompose the units to represent each number as tenths.

a. 1 = ____ tenths

b. 2 = ____ tenths

c. 1.7 = _____ tenths

d. 2.9 = _____ tenths

e. 10.7 = _____ tenths

f. 20.9 = _____ tenths

4. Decompose the units to represent each number as hundredths.

a. 1 = _____ hundredths

b. 2 = _____ hundredths

c. 1.7 = _____ hundredths

d. 2.9 = _____ hundredths

e. 10.7 = _____ hundredths

f. 20.9 = _____ hundredths

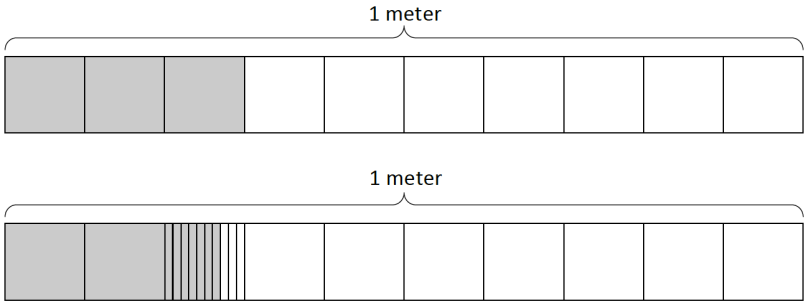
5. Complete the chart. The first one has been done for you.

Decimal	Mixed Number	Tenths	Hundredths
2.1	$2\frac{1}{10}$	21 tenths $\frac{21}{10}$	210 hundredths $\frac{210}{100}$
4.2			
8.4			
10.2			
75.5			

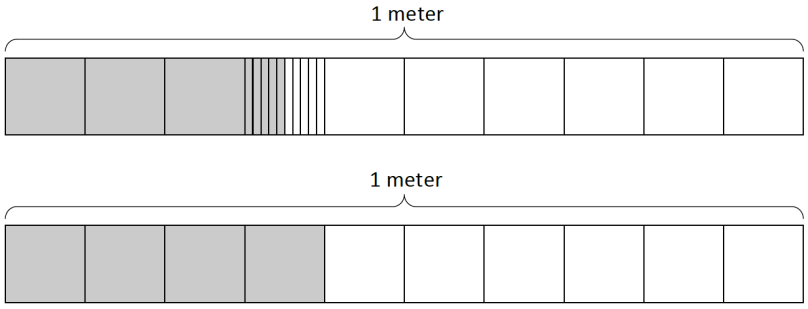
Name _____ Date _____

1. Express the lengths of the shaded parts in decimal form. Write a sentence that compares the two lengths. Use the expression *shorter than* or *longer than* in your sentence.

a.

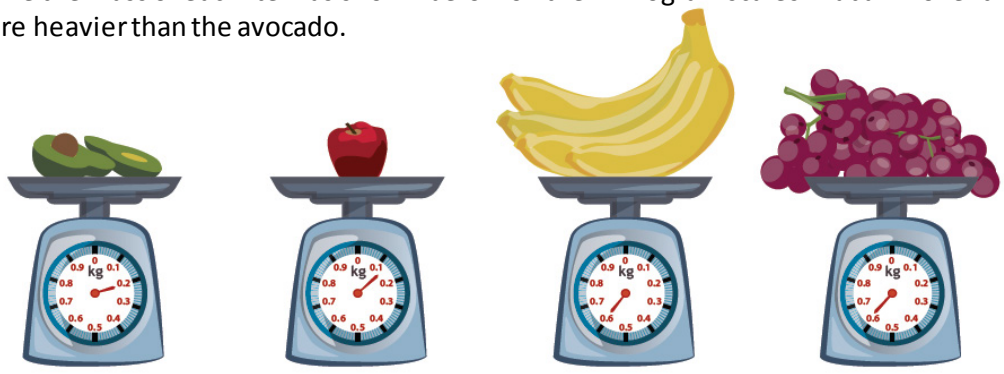


b.



c. List all four lengths from least to greatest.

2. a. Examine the mass of each item as shown below on the 1-kilogram scales. Put an X over the items that are heavier than the avocado.



b. Express the mass of each item on the place value chart.

Mass of Fruit (kilograms)

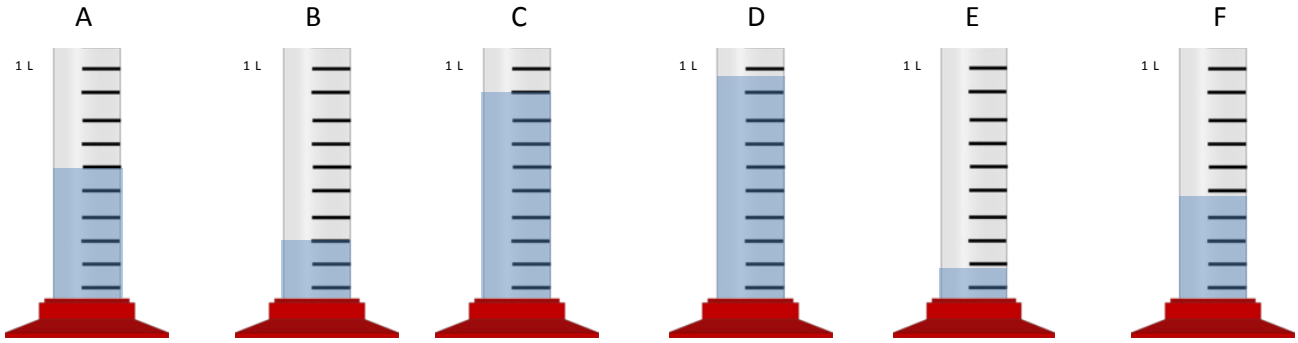
Fruit	ones	.	tenths	hundredths
avocado				
apple				
bananas				
grapes				

c. Complete the statements below using the words *heavier than* or *lighter than* in your statements.

The avocado is _____ the apple.

The bunch of bananas is _____ the bunch of grapes.

3. Record the volume of water in each graduated cylinder on the place value chart below.



0.6 liter 0.3 liter 0.9 liter 0.97 liter 0.19 liter 0.48 liter

Volume of Water (liters)

Cylinder	ones	.	tenths	hundredths
A				
B				
C				
D				
E				
F				

Compare the values using >, <, or =.

a. 0.9 L _____ 0.6 L

b. 0.48 L _____ 0.6 L

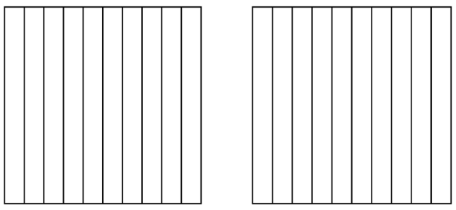
c. 0.3 L _____ 0.19 L

d. Write the volume of water in each graduated cylinder in order from least to greatest.

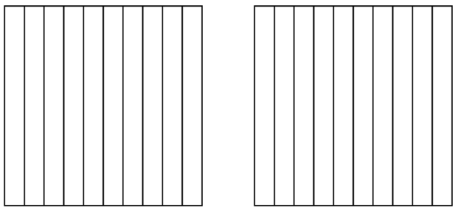
Name _____ Date _____

1. Shade the area models below, decomposing tenths as needed, to represent the pairs of decimal numbers. Fill in the blank with <, >, or = to compare the decimal numbers.

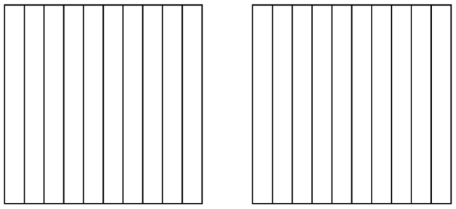
a. 0.23 _____ 0.4



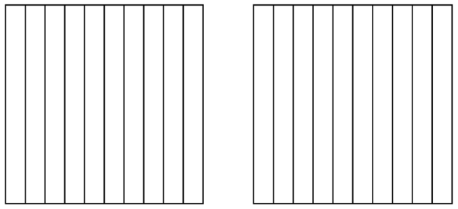
b. 0.6 _____ 0.38



c. 0.09 _____ 0.9

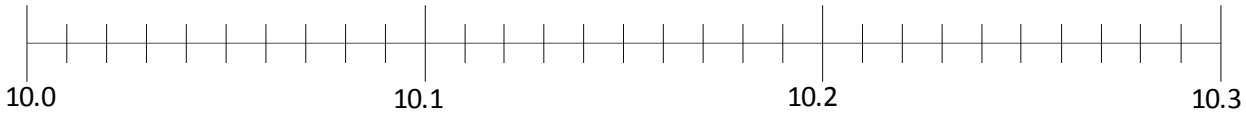


d. 0.70 _____ 0.7

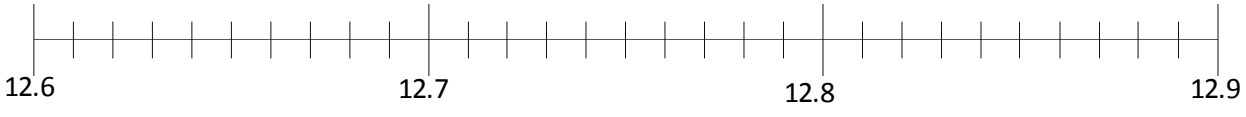


2. Locate and label the points for each of the decimal numbers on the number line. Fill in the blank with <, >, or = to compare the decimal numbers.

a. 10.03 _____ 10.3



b. 12.68 _____ 12.8



3. Use the symbols <, >, or = to compare.

a. 3.42 _____ 3.75

b. 4.21 _____ 4.12

c. 2.15 _____ 3.15

d. 4.04 _____ 6.02

e. 12.7 _____ 12.70

f. 1.9 _____ 1.21

4. Use the symbols <, >, or = to compare. Use pictures as needed to solve.

a. 23 tenths _____ 2.3

b. 1.04 _____ 1 one and 4 tenths

c. 6.07 _____ $6\frac{7}{10}$

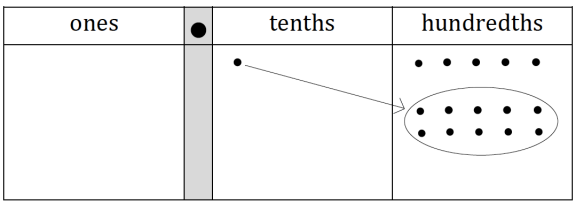
d. 0.45 _____ $\frac{45}{10}$

e. $\frac{127}{100}$ _____ 1.72

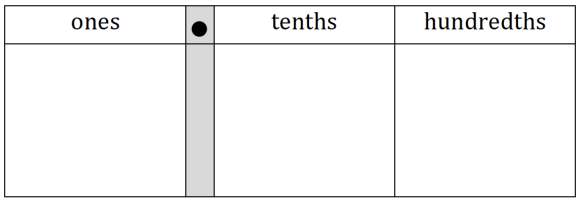
f. 6 tenths _____ 66 hundredths

Name _____ Date _____

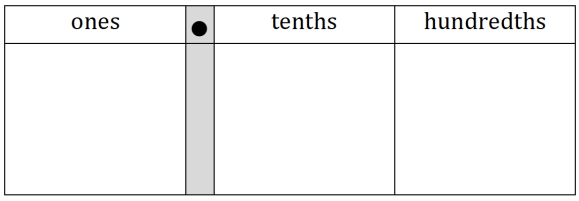
1. Complete the number sentence by expressing each part using hundredths. Model using the place value chart, as shown in part (a).



a. 1 tenth + 5 hundredths = _____ hundredths



b. 2 tenths + 1 hundredth = _____ hundredths



c. 1 tenth + 12 hundredths = _____ hundredths

2. Solve by converting all addends to hundredths before solving.

a. 1 tenth + 3 hundredths = _____ hundredths + 3 hundredths = _____ hundredths

b. 5 tenths + 12 hundredths = _____ hundredths + _____ hundredths = _____ hundredths

c. 7 tenths + 27 hundredths = _____ hundredths + _____ hundredths = _____ hundredths

d. 37 hundredths + 7 tenths = _____ hundredths + _____ hundredths = _____ hundredths

3. Find the sum. Convert tenths to hundredths as needed. Write your answer as a decimal.

a. $\frac{2}{10} + \frac{8}{100}$

b. $\frac{13}{100} + \frac{4}{10}$

c. $\frac{6}{10} + \frac{39}{100}$

d. $\frac{70}{100} + \frac{3}{10}$

4. Solve. Write your answer as a decimal.

a. $\frac{9}{10} + \frac{42}{100}$

b. $\frac{70}{100} + \frac{5}{10}$

c. $\frac{68}{100} + \frac{8}{10}$

d. $\frac{7}{10} + \frac{87}{1v00}$

5. Beaker A has $\frac{63}{100}$ liter of iodine. It is filled the rest of the way with water up to 1 liter. Beaker B has $\frac{4}{10}$ liter of iodine. It is filled the rest of the way with water up to 1 liter. If both beakers are emptied into a large beaker, how much iodine does the large beaker contain?

Name _____ Date _____

1. Solve. Convert tenths to hundredths before finding the sum. Rewrite the complete number sentence in decimal form. Problems 1(a) and 1(b) are partially completed for you.

a. $2\frac{1}{10}+\frac{3}{100}=2\frac{10}{100}+\frac{3}{100}=$ _____ $2.1+0.03=$ _____	b. $2\frac{1}{10}+5\frac{3}{100}=2\frac{10}{100}+5\frac{3}{100}=$ _____
c. $3\frac{24}{100}+\frac{7}{10}$	d. $3\frac{24}{100}+8\frac{7}{10}$

2. Solve. Then, rewrite the complete number sentence in decimal form.

a. $6\frac{9}{10}+1\frac{10}{100}$	b. $9\frac{9}{10}+2\frac{45}{100}$
c. $2\frac{4}{10}+8\frac{90}{100}$	d. $6\frac{37}{100}+7\frac{7}{10}$

3. Solve by rewriting the number sentence in fraction form. After solving, rewrite the complete number sentence in decimal form.

a. 6.4 + 5.3	b. 6.62 + 2.98
c. 2.1 + 0.94	d. 2.1 + 5.94
e. 5.7 + 4.92	f. 5.68 + 4.9
g. 4.8 + 3.27	h. 17.6 + 3.59

Name _____ Date _____

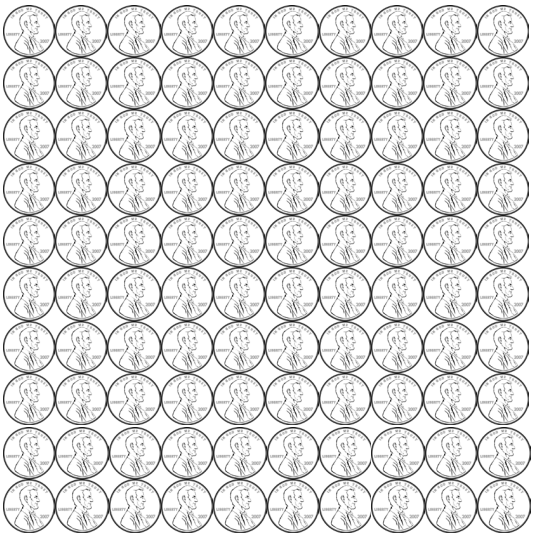
1. Barrel A contains 2.7 liters of water. Barrel B contains 3.09 liters of water. Together, how much water do the two barrels contain?

2. Alissa ran a distance of 15.8 kilometers one week and 17.34 kilometers the following week. How far did she run in the two weeks?

3. An apple orchard sold 140.5 kilograms of apples in the morning and 15.85 kilograms more apples in the afternoon than in the morning. How many total kilograms of apples were sold that day?

4. A team of three ran a relay race. The final runner's time was the fastest, measuring 29.2 seconds. The middle runner's time was 1.89 seconds slower than the final runner's. The starting runner's time was 0.9 seconds slower than the middle runner's. What was the team's total time for the race?

Name _____ Date _____



1. 100 pennies = $___._____ 100¢ = $\frac{\quad}{100}$ dollar

2. 1 penny = $___._____ 1¢ = $\frac{\quad}{100}$ dollar

3. 6 pennies = $___._____ 6¢ = $\frac{\quad}{100}$ dollar

4. 10 pennies = $___._____ 10¢ = $\frac{\quad}{100}$ dollar

5. 26 pennies = $___._____ 26¢ = $\frac{\quad}{100}$ dollar

6. 10 dimes = $___._____ 100¢ = $\frac{\quad}{10}$ dollar

7. 1 dime = $___._____ 10¢ = $\frac{\quad}{10}$ dollar

8. 3 dimes = $___._____ 30¢ = $\frac{\quad}{10}$ dollar

9. 5 dimes = $___._____ 50¢ = $\frac{\quad}{10}$ dollar

10. 6 dimes = $___._____ 60¢ = $\frac{\quad}{10}$ dollar

11. 4 quarters = $___._____ 100¢ = $\frac{\quad}{100}$ dollar

12. 1 quarter = $___._____ 25¢ = $\frac{\quad}{100}$ dollar

13. 2 quarters = $___._____ 50¢ = $\frac{\quad}{100}$ dollar

14. 3 quarters = $___._____ 75¢ = $\frac{\quad}{100}$ dollar

Solve. Give the total amount of money in fraction and decimal form.

15. 3 dimes and 8 pennies

16. 8 dimes and 23 pennies

17. 3 quarters 3 dimes and 5 pennies

18. 236 cents is what fraction of a dollar?

Solve. Express the answer as a decimal.

19. 2 dollars 17 pennies + 4 dollars 2 quarters

20. 3 dollars 8 dimes + 1 dollar 2 quarters 5 pennies

21. 9 dollars 9 dimes + 4 dollars 3 quarters 16 pennies

Name _____ Date _____

Use the RDW process to solve. Write your answer as a decimal.

1. Miguel has 1 dollar bill, 2 dimes, and 7 pennies. John has 2 dollar bills, 3 quarters, and 9 pennies. How much money do the two boys have in all?

2. Suilin needs 7 dollars 13 cents to buy a book. In her wallet, she finds 3 dollar bills, 4 dimes, and 14 pennies. How much more money does Suilin need to buy the book?

3. Vanessa has 6 dimes and 2 pennies. Joachim has 1 dollar, 3 dimes, and 5 pennies. Jimmy has 5 dollars and 7 pennies. They want to put their money together to buy a game that costs $8.00. Do they have enough money to buy the game? If not, how much more money do they need?

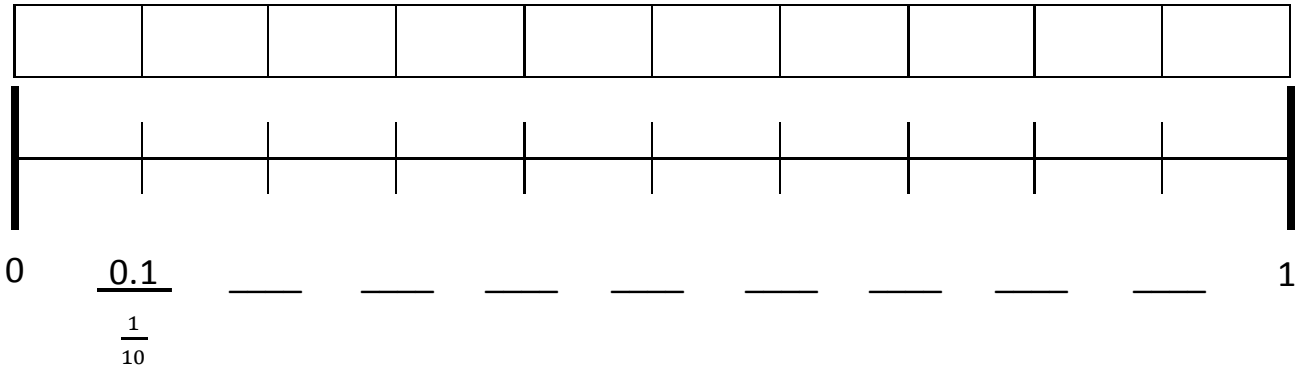
4. A pen costs $2.29. A calculator costs 3 times as much as a pen. How much do a pen and a calculator cost together?

5. Krista has 7 dollars and 32 cents. Malory has 2 dollars and 4 cents. How much money does Krista need to give Malory so that each of them has the same amount of money?

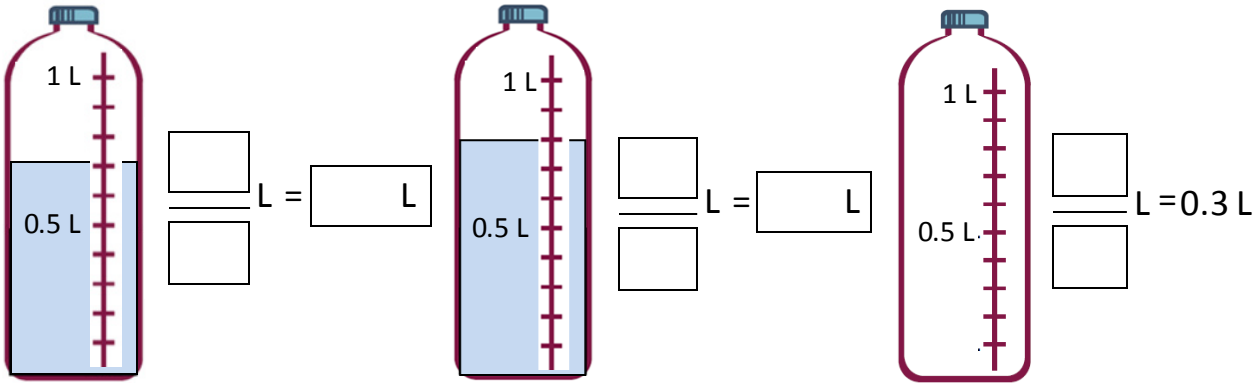
Start of Homework section for Mission 6

Name _____ Date _____

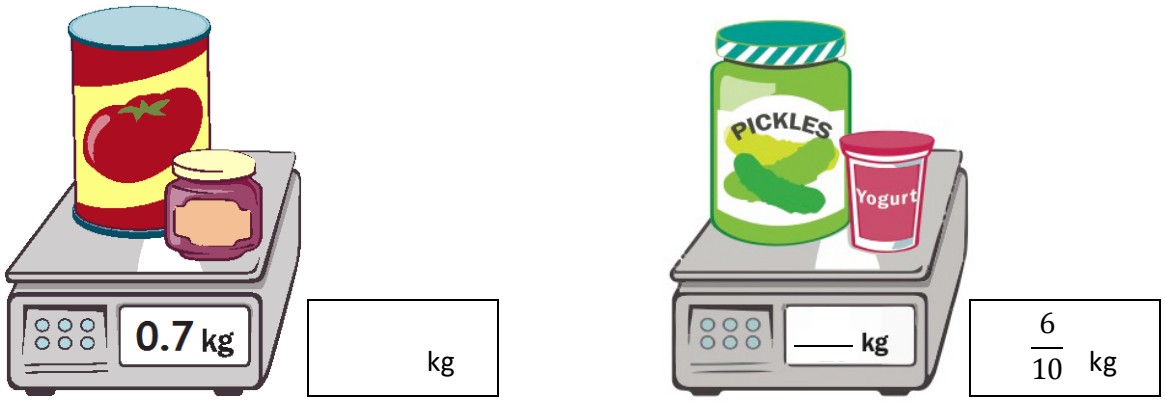
Shade the first 4 units of the tape diagram. Count by tenths to label the number line using a fraction and a decimal for each point. Circle the decimal that represents the shaded part.



2. Write the total amount of water in fraction form and decimal form. Shade the last bottle to show the correct amount.



3. Write the total weight of the food on each scale in fraction form or decimal form.



4. Write the length of the bug in centimeters. (The drawing is not to scale.)

Fraction form: _____ cm

Decimal form: _____ cm

If the bug walks 0.5 cm farther, where will its nose be? _____ cm

5. Fill in the blank to make the sentence true in both fraction and decimal form.

a. $\frac{4}{10}$ cm + _____ cm = 1 cm 0.4 cm + _____ cm = 1.0 cm

b. $\frac{3}{10}$ cm + _____ cm = 1 cm 0.3 cm + _____ cm = 1.0 cm

c. $\frac{8}{10}$ cm + _____ cm = 1 cm 0.8 cm + _____ cm = 1.0 cm

6. Match each amount expressed in unit form to its equivalent fraction and decimal.

2 tenths	$\frac{4}{10}$	0.4
4 tenths	$\frac{7}{10}$	0.6
6 tenths	$\frac{5}{10}$	0.2
7 tenths	$\frac{2}{10}$	0.5
5 tenths	$\frac{6}{10}$	0.7

Name _____ Date _____

1. For each length given below, draw a line segment to match. Express each measurement as an equivalent mixed number.

   a. 2.6 cm

   b. 3.5 cm

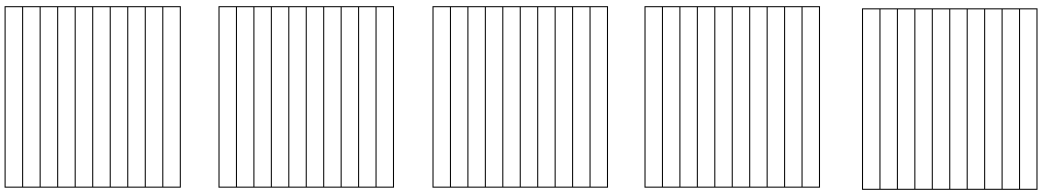
   c. 1.7 cm

   d. 4.3 cm

   e. 2.2 cm

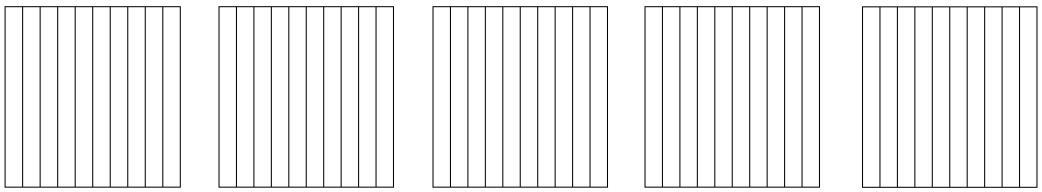
2. Write the following in decimal form. Then, model and rename the number as shown below.

   a. 2 ones and 4 tenths = _____

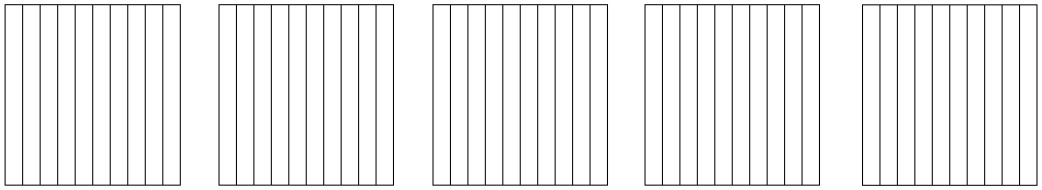


$2\frac{4}{10} = 2 + \frac{4}{10} = 2 + 0.4 = 2.4$

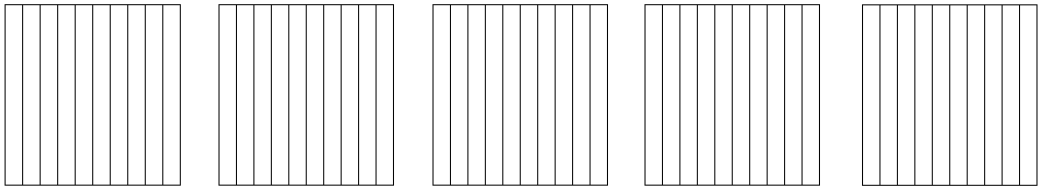
b. 3 ones and 8 tenths = _____



c. $4\frac{1}{10}$ = _____

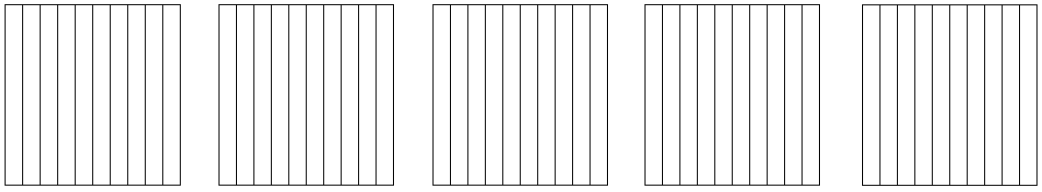


d. $1\frac{4}{10}$ = _____



How much more is needed to get to 5? _____

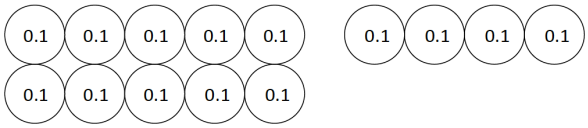
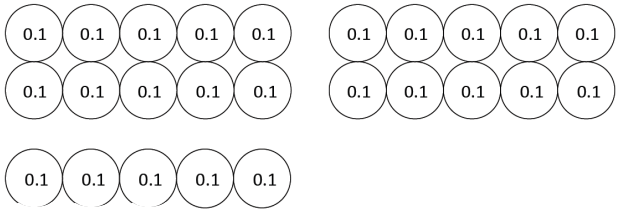
e. $\frac{33}{10}$ = _____



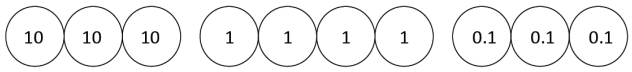
How much more is needed to get to 5? _____

Name _____ Date _____

1. Circle groups of tenths to make as many ones as possible.

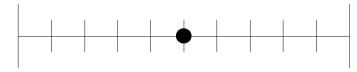
a. How many tenths in all?  There are _____ tenths.	Write and draw the same number using ones and tenths. Decimal Form: _____ How much more is needed to get to 2? _____
b. How many tenths in all?  There are _____ tenths.	Write and draw the same number using ones and tenths. Decimal Form: _____ How much more is needed to get to 3? _____

2. Draw disks to represent each number using tens, ones, and tenths. Then, show the expanded form of the number in fraction form and decimal form as shown. The first one has been completed for you.

a. 3 tens 4 ones 3 tenths  Fraction Expanded Form $(3 \times 10) + (4 \times 1) + (3 \times \frac{1}{10}) = 34\frac{3}{10}$ Decimal Expanded Form $(3 \times 10) + (4 \times 1) + (3 \times 0.1) = 34.3$	b. 5 tens 3 ones 7 tenths

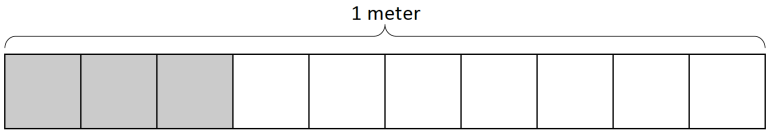
c. 3 tens 2 ones 3 tenths	d. 8 tens 4 ones 8 tenths

3. Complete the chart.

Point	Number Line	Decimal Form	Mixed Number (ones and fraction form)	Expanded Form (fraction or decimal form)	How much to get to the next one?
a.			$4\frac{6}{10}$		
b.					0.5
c.				$(6 \times 10) + (3 \times 1) + (6 \times \frac{1}{10})$	
d.			$71\frac{3}{10}$		
e.				$(9 \times 10) + (9 \times 0.1)$	

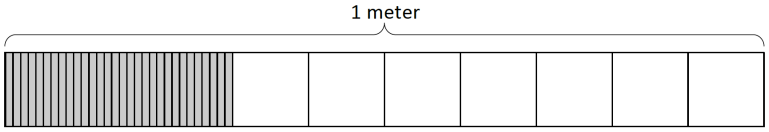
Name _____ Date _____

1. a. What is the length of the shaded part of the meter stick in centimeters?



b. What fraction of a meter is 3 centimeters?

c. In fraction form, express the length of the shaded portion of the meter stick.



d. In decimal form, express the length of the shaded portion of the meter stick.

e. What fraction of a meter is 30 centimeters?

2. Fill in the blanks.

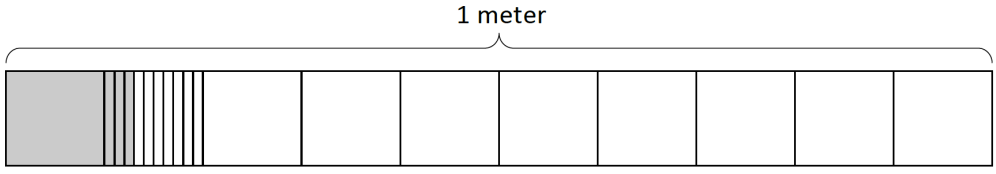
a. 5 tenths = ____ hundredths

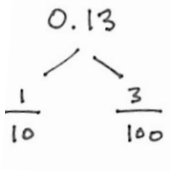
b. $\frac{5}{10}$ m = ____ m

c. $\frac{4}{10}$ m = $\frac{40}{\quad}$ m

3. Use the model to add the shaded parts as shown. Write a number bond with the total written in decimal form and the parts written as fractions. The first one has been done for you.

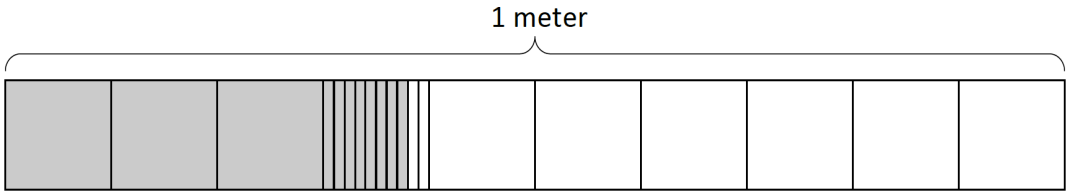
a.



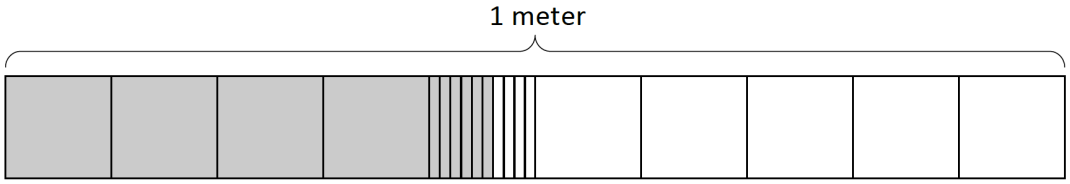


$\frac{1}{10}$ m + $\frac{3}{100}$ m = $\frac{13}{100}$ m = 0.13 m

b.

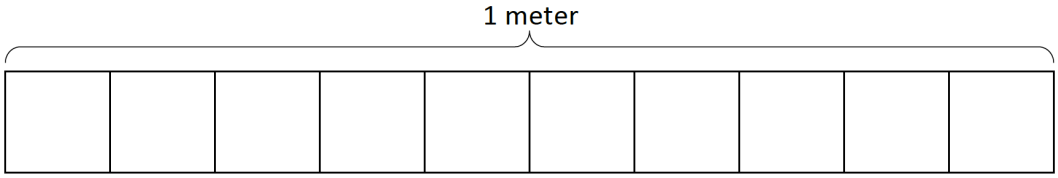


c.

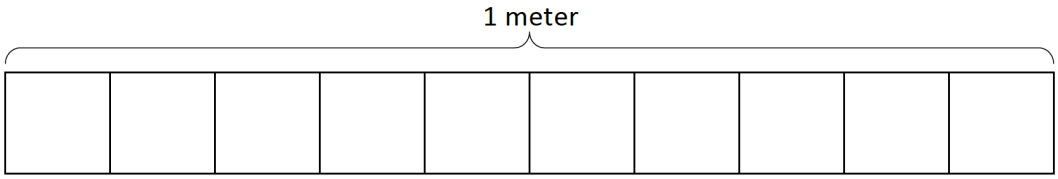


4. On each meter stick, shade in the amount shown. Then, write the equivalent decimal.

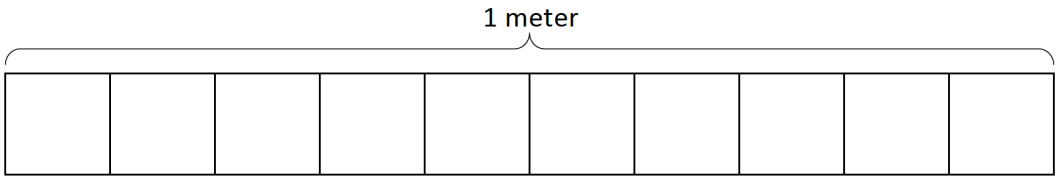
a. $\frac{9}{10}$ m



b. $\frac{15}{100}$ m



c. $\frac{41}{100}$ m



5. Draw a number bond, pulling out the tenths from the hundredths, as in Problem 3 of the Homework. Write the total as the equivalent decimal.

a. $\frac{23}{100}$ m

b. $\frac{38}{100}$ m

c. $\frac{82}{100}$

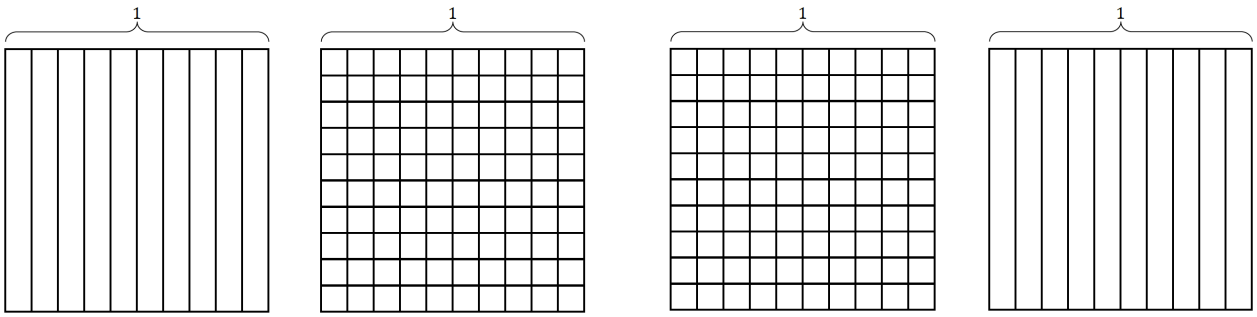
d. $\frac{76}{100}$

Name _____ Date _____

1. Find the equivalent fraction using multiplication or division. Shade the area models to show the equivalency. Record it as a decimal.

a. $\frac{4 \times}{10 \times} = \frac{\quad}{100}$

b. $\frac{60 \div}{100 \div} = \frac{\quad}{10}$

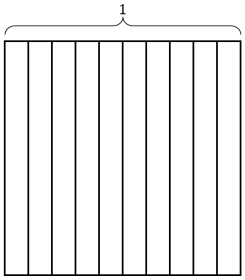


2. Complete the number sentences. Shade the equivalent amount on the area model, drawing horizontal lines to make hundredths.

a. 36 hundredths = _____ tenths + ____ hundredths

Decimal form: _____

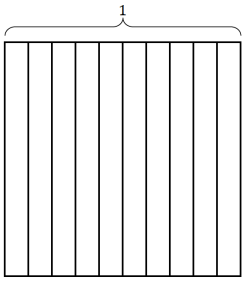
Fraction form: _____



b. 82 hundredths = ____ tenths + ____ hundredths

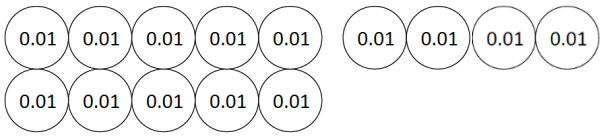
Decimal form: _____

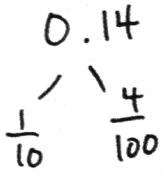
Fraction form: _____



3. Circle hundredths to compose as many tenths as you can. Complete the number sentences. Represent each with a number bond as shown.

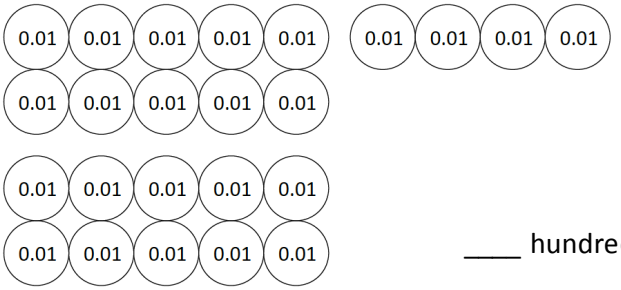
a.





____ hundredths = _____ tenth + _____ hundredths

b.



____ hundredths = _____ tenths + _____ hundredths

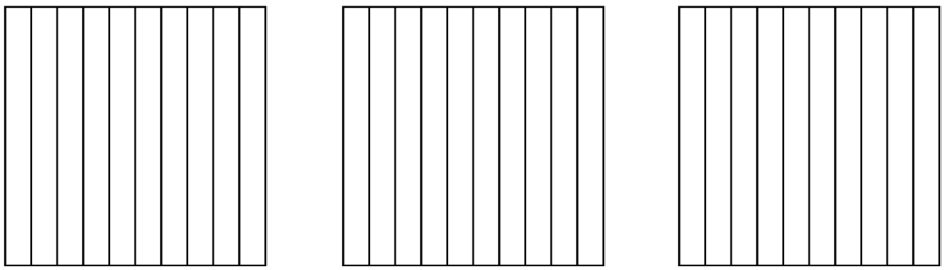
4. Use both tenths and hundredths place value disks to represent each number. Write the equivalent number in decimal, fraction, and unit form.

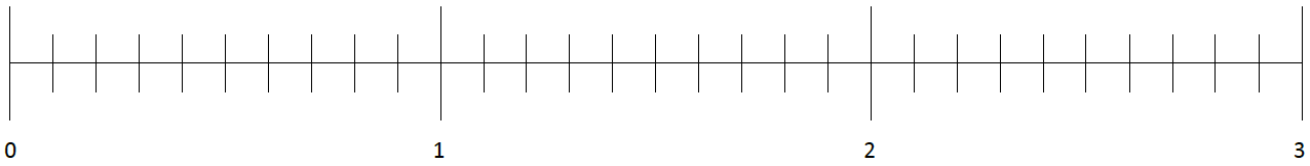
a. $\frac{4}{100}$ = 0. _____ _____ hundredths	b. $\frac{13}{100}$ = 0. _____ _____tenth _____ hundredths
c. ___ = 0.41 _____ hundredths	d. ___ = 0.90 _____ tenths
e. ___ = 0. _____ 6 tenths 3 hundredths	f. ___ = 0. _____ 90 hundredths

Name _____ Date _____

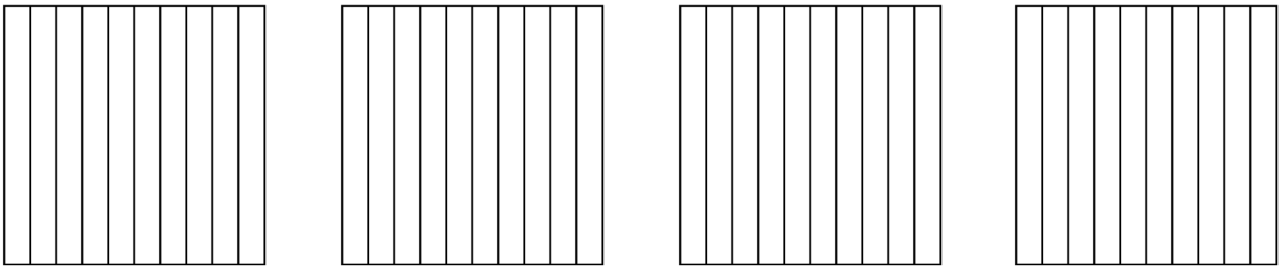
1. Shade the area models to represent the number, drawing horizontal lines to make hundredths as needed. Locate the corresponding point on the number line. Label with a point, and record the mixed number as a decimal.

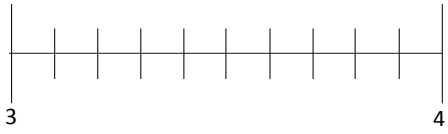
a. $2\frac{35}{100}$ = ___._____





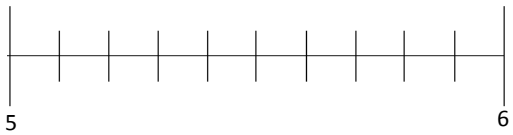
b. $3\frac{17}{100}$ = ___._____



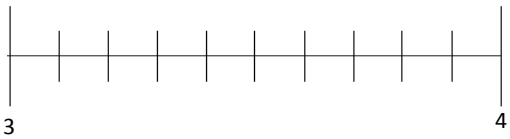


2. Estimate to locate the points on the number lines.

a. $5\frac{90}{100}$



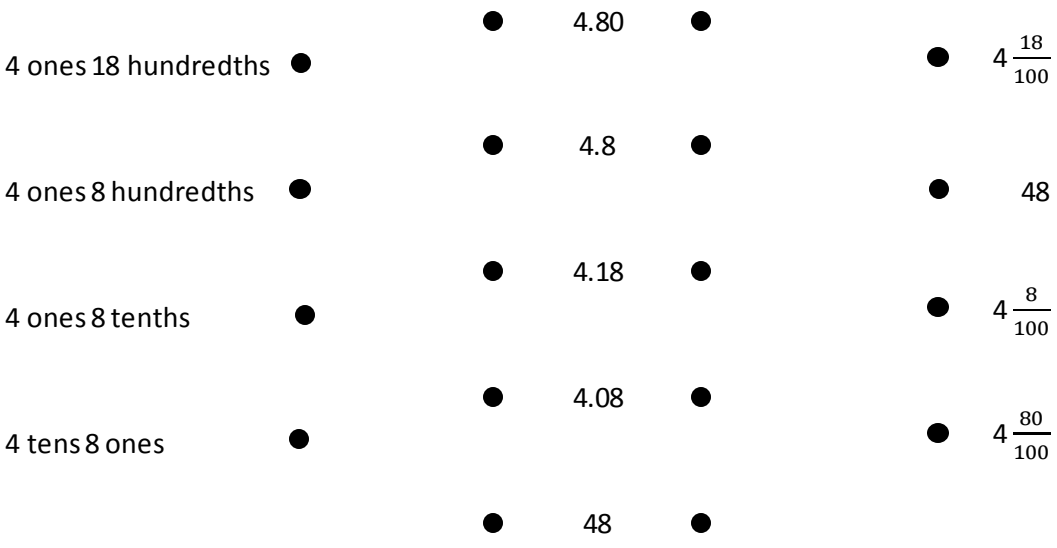
b. $3\frac{25}{100}$



3. Write the equivalent fraction and decimal for each of the following numbers.

a. 2 ones 2 hundredths	b. 2 ones 16 hundredths
c. 3 ones 7 hundredths	d. 1 one 18 hundredths
e. 9 ones 62 hundredths	f. 6 ones 20 hundredths

4. Draw lines from dot to dot to match the decimal form to both the unit form and fraction form. All unit forms and fractions have at least one match, and some have more than one match.



Name _____ Date _____

1. Write a decimal number sentence to identify the total value of the place value disks.

a. 

3 tens 4 tenths 2 hundredths

_____ + _____ + _____ = _____

b. 

4 hundreds 3 hundredths

_____ + _____ = _____

2. Use the place value chart to answer the following questions. Express the value of the digit in unit form.

hundreds	tens	ones	.	tenths	hundredths
8	2	7		6	4

a. The digit _____ is in the hundreds place. It has a value of _____.

b. The digit _____ is in the tens place. It has a value of _____.

c. The digit _____ is in the tenths place. It has a value of _____.

d. The digit _____ is in the hundredths place. It has a value of _____.

hundreds	tens	ones	.	tenths	hundredths
3	4	5		1	9

e. The digit _____ is in the hundreds place. It has a value of _____.

f. The digit _____ is in the tens place. It has a value of _____.

g. The digit _____ is in the tenths place. It has a value of _____.

h. The digit _____ is in the hundredths place. It has a value of _____.

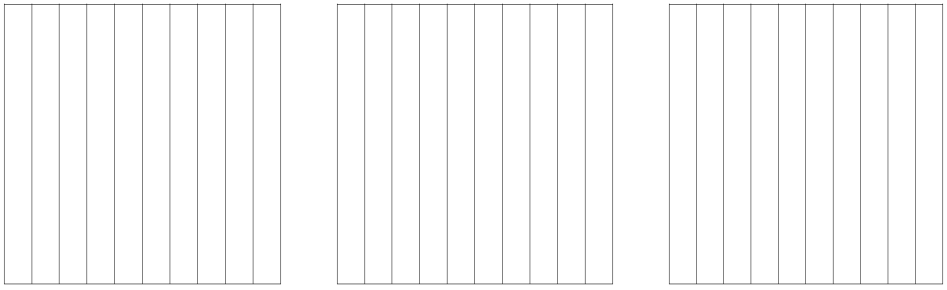
3. Write each decimal as an equivalent fraction. Then, write each number in expanded form, using both decimal and fraction notation. The first one has been done for you.

Decimal and Fraction Form	Expanded Form	
	Fraction Notation	Decimal Notation
$14.23 = 14\frac{23}{100}$	$(1 \times 10) + (4 \times 1) + (2 \times \frac{1}{10}) + (3 \times \frac{1}{100})$ $10 + 4 + \frac{2}{10} + \frac{3}{100}$	$(1 \times 10) + (4 \times 1) + (2 \times 0.1) + (3 \times 0.01)$ $10 + 4 + 0.2 + 0.03$
25.3 = _____		
39.07 = _____		
40.6 = _____		
208.90 = _____		
510.07 = _____		
900.09 = _____		

Name _____ Date _____

1. Use the area model to represent $\frac{220}{100}$. Complete the number sentence.

   a. $\frac{220}{100}$ = _____ tenths = _____ ones _____ tenths = __.____



   b. In the space below, explain how you determined your answer to part (a).

2. Draw place value disks to represent the following decompositions:

   3 ones = _____ tenths

ones	.	tenths	hundredths

   3 tenths = _____ hundredths

ones	.	tenths	hundredths

   2 ones 3 tenths = ____ tenths

ones	.	tenths	hundredths

   3 tenths 3 hundredths = ____ hundredths

ones	.	tenths	hundredths

3. Decompose the units to represent each number as tenths.

a. 1 = _____ tenths

b. 2 = _____ tenths

c. 1.3 = _____ tenths

d. 2.6 = _____ tenths

e. 10.3 = _____ tenths

f. 20.6 = _____ tenths

4. Decompose the units to represent each number as hundredths.

a. 1 = _____ hundredths

b. 2 = _____ hundredths

c. 1.3 = _____ hundredths

d. 2.6 = _____ hundredths

e. 10.3 = _____ hundredths

f. 20.6 = _____ hundredths

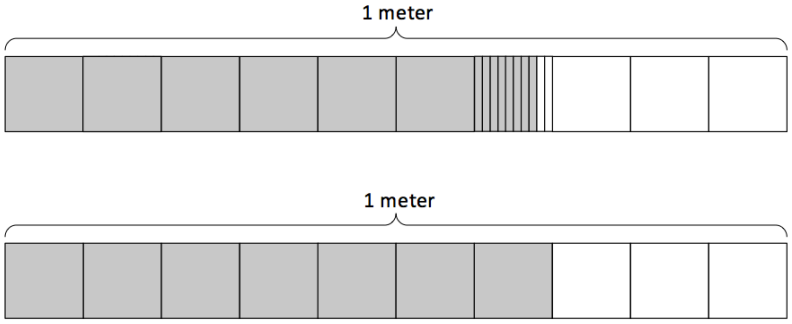
5. Complete the chart. The first one has been done for you.

Decimal	Mixed Number	Tenths	Hundredths
4.1	$4\frac{1}{10}$	41 tenths $\frac{41}{10}$	410 hundredths $\frac{410}{100}$
5.3			
9.7			
10.9			
68.5			

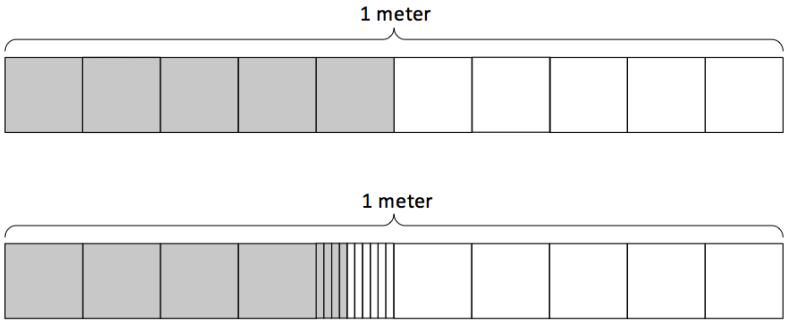
Name _____ Date _____

1. Express the lengths of the shaded parts in decimal form. Write a sentence that compares the two lengths. Use the expression *shorter than* or *longer than* in your sentence.

a.



b.



c. List all four lengths from least to greatest.

2. a. Examine the mass of each item as shown below on the 1-kilogram scales. Put an X over the items that are heavier than the volleyball

0.15 kg

0.62 kg

0.43 kg

0.25 kg

b. Express the mass of each item on the place value chart.

Mass of Sport Balls (kilograms)

Sport Balls	ones	.	tenths	hundredths
baseball				
volleyball				
basketball				
soccer ball				

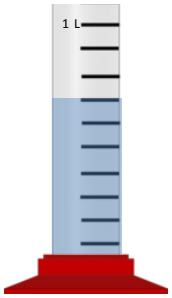
c. Complete the statements below using the words *heavier than* or *lighter than* in your statements.

The soccer ball is _____ the baseball.

The volleyball is _____ the basketball.

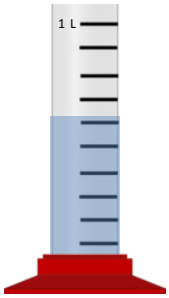
3. Record the volume of water in each graduated cylinder on the place value chart below.

A



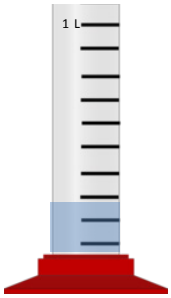
0.7 liter

B



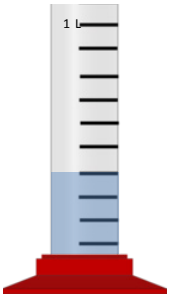
0.62 liter

C



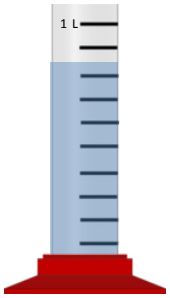
0.28 liter

D



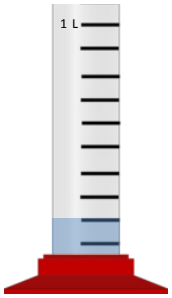
0.4 liter

E



0.85 liter

F



0.2 liter

Volume of Water (liters)

Cylinder	ones	.	tenths	hundredths
A				
B				
C				
D				
E				
F				

Compare the values using >, <, or =.

a. 0.4 L ____ 0.2 L

b. 0.62 L ____ 0.7 L

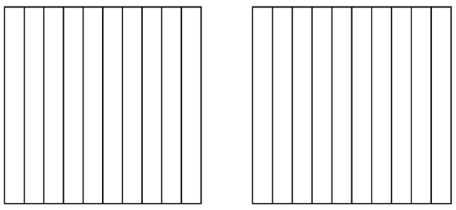
c. 0.2 L _____ 0.28 L

d. Write the volume of water in each graduated cylinder in order from least to greatest.

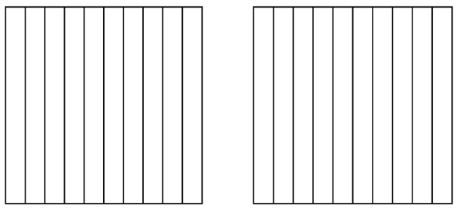
Name _____ Date _____

1. Shade the parts of the area models below, decomposing tenths as needed, to represent the pairs of decimal numbers. Fill in the blank with <, >, or = to compare the decimal numbers.

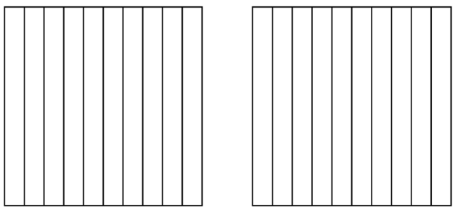
a. 0.19 _____ 0.3



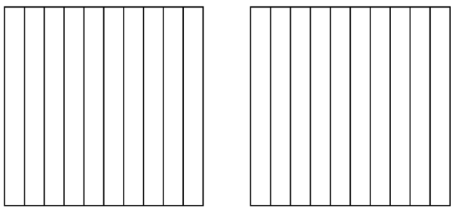
b. 0.6 _____ 0.06



c. 1.8 _____ 1.53

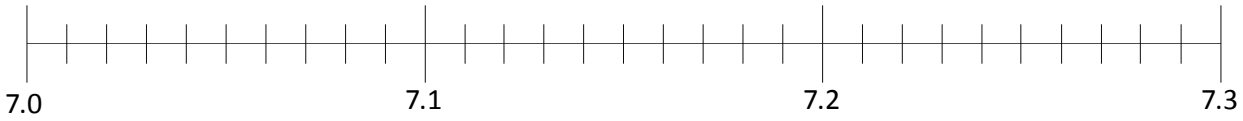


d. 0.38 _____ 0.7



2. Locate and label the points for each of the decimal numbers on the number line. Fill in the blank with <, >, or = to compare the decimal numbers.

a. 7.2 _____ 7.02



b. 18.19 _____ 18.3

3. Use the symbols <, >, or = to compare.

a. 2.68 _____ 2.54

b. 6.37 _____ 6.73

c. 9.28 _____ 7.28

d. 3.02 _____ 3.2

e. 13.1 _____ 13.10

f. 5.8 _____ 5.92

4. Use the symbols <, >, or = to compare. Use pictures as needed to solve.

a. 57 tenths _____ 5.7

b. 6.2 _____ 6 ones and 2 hundredths

c. 33 tenths _____ 33 hundredths

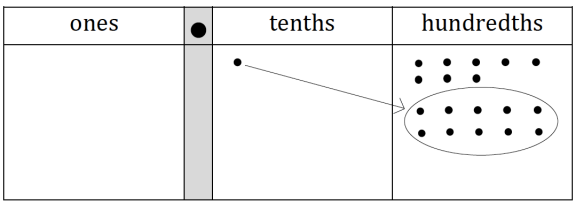
d. 8.39 _____ $8\frac{39}{10}$

e. $\frac{236}{100}$ _____ 2.36

f. 3 tenths _____ 22 hundredths

Name _____ Date _____

1. Complete the number sentence by expressing each part using hundredths. Model using the place value chart, as shown in part (a).



a. 1 tenth + 8 hundredths = _____ hundredths

ones	●	tenths	hundredths

b. 2 tenths + 3 hundredths = _____ hundredths

ones	●	tenths	hundredths

c. 1 tenth + 14 hundredths = _____ hundredths

2. Solve by converting all addends to hundredths before solving.

a. 1 tenth + 2 hundredths = _____ hundredths + 2 hundredths = _____ hundredths

b. 4 tenths + 11 hundredths = _____ hundredths + _____ hundredths = _____ hundredths

c. 8 tenths + 25 hundredths = _____ hundredths + _____ hundredths = _____ hundredths

d. 43 hundredths + 6 tenths = _____ hundredths + _____ hundredths = _____ hundredths

3. Find the sum. Convert tenths to hundredths as needed. Write your answer as a decimal.

a. $\frac{3}{10} + \frac{7}{100}$

b. $\frac{16}{100} + \frac{5}{10}$

c. $\frac{5}{10} + \frac{40}{100}$

d. $\frac{20}{100} + \frac{8}{10}$

4. Solve. Write your answer as a decimal.

a. $\frac{5}{10} + \frac{53}{100}$

b. $\frac{27}{100} + \frac{8}{10}$

c. $\frac{4}{10} + \frac{78}{100}$

d. $\frac{98}{100} + \frac{7}{10}$

5. Cameron measured $\frac{65}{100}$ inch of rainwater on the first day of April. On the second day of April, he measured $\frac{83}{100}$ inch of rainwater. How many total inches of rainwater did Cameron measure on the first two days of April?

Name _____ Date _____

1. Solve. Convert tenths to hundredths before finding the sum. Rewrite the complete number sentence in decimal form. Problems 1(a) and 1(b) are partially completed for you.

a. $5\frac{2}{10}+\frac{7}{100}=5\frac{20}{100}+\frac{7}{100}=$ _____ 5.2 + 0.07 = _____	b. $5\frac{2}{10}+3\frac{7}{100}=8\frac{20}{100}+\frac{7}{100}=$ _____
c. $6\frac{5}{10}+\frac{1}{100}$	d. $6\frac{\mathbf{5}}{\mathbf{10}}+7\frac{1}{100}$

2. Solve. Then, rewrite the complete number sentence in decimal form.

a. $4\frac{9}{10}+5\frac{10}{100}$	b. $8\frac{7}{10}+2\frac{65}{100}$
c. $7\frac{3}{10}+6\frac{87}{100}$	d. $5\frac{48}{100}+7\frac{8}{10}$

3. Solve by rewriting the number sentence in fraction form. After solving, rewrite the complete number sentence in decimal form.

a. $2.1 + 0.87 = 2\frac{1}{10} + \frac{87}{100}$	b. $7.2 + 2.67$
c. $7.3 + 1.8$	d. $7.3 + 1.86$
e. $6.07 + 3.93$	f. $6.87 + 3.9$
g. $8.6 + 4.67$	h. $18.62 + 14.7$

Name _____ Date _____

1. The snowfall in Year 1 was 2.03 meters. The snowfall in Year 2 was 1.6 meters. How many total meters of snow fell in Years 1 and 2?

2. A deli sliced 22.6 kilograms of roast beef one week and 13.54 kilograms the next. How many total kilograms of roast beef did the deli slice in the two weeks?

3. The school cafeteria served 125.6 liters of milk on Monday and 5.34 more liters of milk on Tuesday than on Monday. How many total liters of milk were served on Monday and Tuesday?

4. Max, Maria, and Armen were a team in a relay race. Max ran his part in 17.3 seconds. Maria was 0.7 seconds slower than Max. Armen was 1.5 seconds slower than Maria. What was the total time for the team?