

# FIFTH GRADE MODULE 1

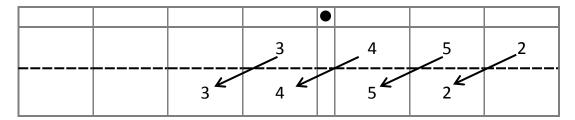


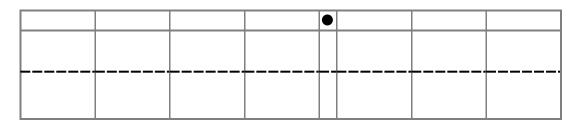
STUDENT WORKBOOK

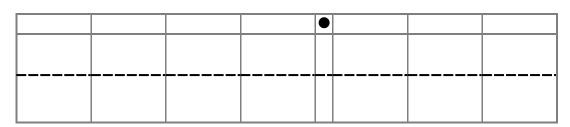


Name	Data
Name	Date

1. Use the place value chart and arrows to show how the value of the each digit changes. The first one has been done for you.





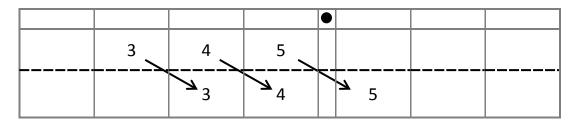


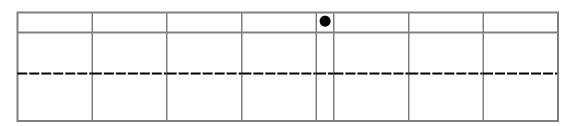
d. Explain how and why the value of the 5 changed in (a), (b), and (c).





2. Use the place value chart and arrows to show how the value of each digit changes. The first one has been done for you.





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d. Explain how and why the value of the 4 changed in the quotients in (a), (b), and (c).



3.	A manufacturer made 7,234 boxes of coffee stirrers	s. Each box contains 1,000 stirrers.	How many stirrers
	did they make? Explain your thinking, and include	a statement of the solution.	

4. A student used his place value chart to show a number. After the teacher instructed him to multiply his number by 10, the chart showed 3,200.4. Draw a picture of what the place value chart looked like at first.

Explain how you decided what to draw on your place value chart. Be sure to include your reasoning about how the value of each digit was affected by the multiplication. Use words, pictures, or numbers.

5. A microscope has a setting that magnifies an object so that it appears 100 times as large when viewed through the eyepiece. If a tiny insect is 0.095 cm long, how long will the insect appear in centimeters through the microscope? Explain how you know.







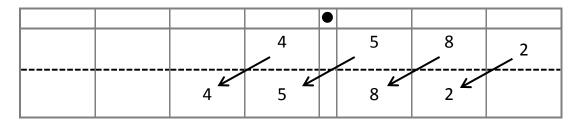


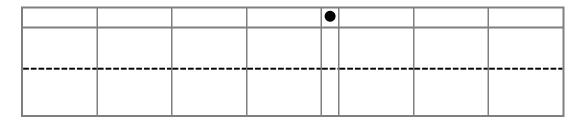


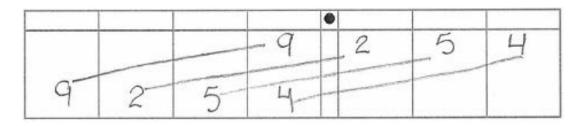
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	Name	Date
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1. Use the place value chart and arrows to show how the value of each digit changes. The first one has been done for you.



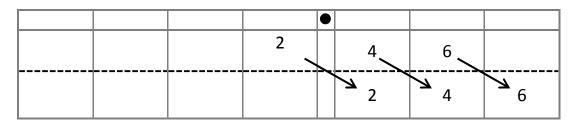


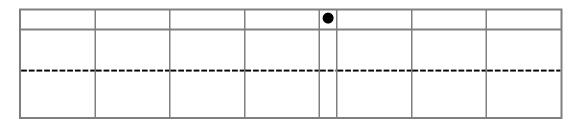


d. Explain how and why the value of the 2 changed in (a), (b), and (c).



2. Use the place value chart and arrows to show how the value of each digit changes. The first one has been done for you.





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d. Explain how and why the value of the 6 changed in the quotients in (a), (b), and (c).



3. Researchers counted 8,912 monarch butterflies on one branch of a tree at a site in Mexico. They estimated that the total number of butterflies at the site was 1,000 times as large. About how many butterflies were at the site in all? Explain your thinking, and include a statement of the solution.

The answer is 1,000 times greater than what was counted so the place value of each digit moved 3 places to the left.

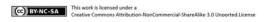
4. A student used his place value chart to show a number. After the teacher instructed him to divide his number by 100, the chart showed 28.003. Draw a picture of what the place value chart looked like at first.

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a. Explain how you decided what to draw on your place value chart. Be sure to include your reasoning about how the value of each digit was affected by the division.

5. On a map, the perimeter of a park is 0.251 meters. The actual perimeter of the park is 1,000 times as large. What is the actual perimeter of the park? Explain how you know using a place value chart.











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unlabeled hundreds through hundredths place value chart









1,000,000	100,000	10,000	1,000	100	10	1	•	1 10	$\frac{1}{100}$	$\frac{1}{1000}$
Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
							•			
							•			

millions through thousandths place value chart











Name \_\_\_\_\_

Date \_\_\_\_\_

#### 1. Solve.

## 2. Find the products.

d. Explain how you decided on the number of zeros in the products for (a), (b), and (c).





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3. Find the quotients.

d. Explain how you decided where to place the decimal in the quotients for (a), (b), and (c).

4. Janice thinks that 20 hundredths is equivalent to 2 thousandths because 20 hundreds is equal to 2 thousands. Use words and a place value chart to correct Janice's error.

5. Canada has a population that is about  $\frac{1}{10}$  as large as the United States. If Canada's population is about 32 million, about how many people live in the United States? Explain the number of zeros in your the answer.



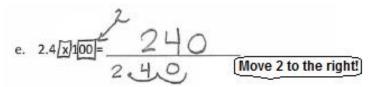


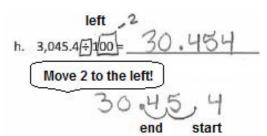
Name \_\_\_\_\_

Date \_\_\_\_

#### 1. Solve.

## 2. Find the products.





Explain how you decided on the number of zeros in the products for (a), (b), and (c).





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3. Find the quotients.

c. Explain how you decided where to place the decimal in the quotients for (a) and (b).

4. Ted says that 3 tenths multiplied by 100 equals 300 thousandths. Is he correct? Use a place value chart to explain your answer.

5. Alaska has a land area of about 1,700,000 square kilometers. Florida has a land area  $\frac{10}{10}$  the size of Alaska. What is the land area of Florida? Explain how you found your answer.





Name \_\_\_\_\_

Date \_\_\_\_\_

1. Write the following in exponential form (e.g.,  $100 = 10^2$ ).

2. Write the following in standard form (e.g.,  $5 \times 10^2 = 500$ ).

a. 
$$9 \times 10^3 =$$
\_\_\_\_\_

e. 
$$4.025 \times 10^3 =$$
\_\_\_\_\_

b. 
$$39 \times 10^4 =$$
\_\_\_\_\_

f. 
$$40.25 \times 10^4 =$$
\_\_\_\_\_

c. 
$$7,200 \div 10^2 =$$
\_\_\_\_\_

g. 
$$72.5 \div 10^2 =$$
\_\_\_\_\_

d. 
$$7,200,000 \div 10^3 =$$
\_\_\_\_\_

h. 
$$7.2 \div 10^2 =$$

- 3. Think about the answers to Problem 2(a–d). Explain the pattern used to find an answer when you multiply or divide a whole number by a power of 10.
- 4. Think about the answers to Problem 2(e–h). Explain the pattern used to place the decimal in the answer when you multiply or divide a decimal by a power of 10.



J. Complete the pattern.	5.	Comp	lete	the	patterns
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a. 0.03 0.3 \_\_\_\_\_ 30 \_\_\_\_

b. 6,500,000 65,000 \_\_\_\_\_ 6.5

c. 9,430 94.3 9.43

e. 7.5 750 75,000

- f. Explain how you found the unknown numbers in set (b). Be sure to include your reasoning about the number of zeros in your numbers and how you placed the decimal.
- g. Explain how you found the unknown numbers in set (d). Be sure to include your reasoning about the number of zeros in your numbers and how you placed the decimal.
- 6. Shaunnie and Marlon missed the lesson on exponents. Shaunnie incorrectly wrote  $10^5 = 50$  on her paper, and Marlon incorrectly wrote  $2.5 \times 10^2 = 2.500$  on his paper.
  - a. What mistake has Shaunnie made? Explain using words, numbers, or pictures why her thinking is incorrect and what she needs to do to correct her answer.
  - b. What mistake has Marlon made? Explain using words, numbers, or pictures why his thinking is incorrect and what he needs to do to correct his answer.









Date \_\_\_\_\_

## 1. Write the following in exponential form (e.g., $100 = 10^2$ ).

# 2. Write the following in standard form (e.g., $4 \times 10^2 = 400$ ).

a. 
$$4 \times 10^3 =$$
\_\_\_\_\_

e. 
$$6.072 \times 10^3 =$$
\_\_\_\_\_

b. 
$$64 \times 10^4 =$$
\_\_\_\_\_

f. 
$$60.72 \times 10^4 =$$
\_\_\_\_\_

c. 
$$5,300 \div 10^2 =$$
\_\_\_\_\_

g. 
$$948 \div 10^3 =$$
\_\_\_\_\_

d. 
$$5,300,000 \div 10^3 =$$
\_\_\_\_\_

h. 
$$9.4 \div 10^2 =$$
\_\_\_\_\_

# 3. Complete the patterns.



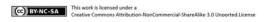
4. After a lesson on exponents, Tia went home and said to her mom, "I learned that 10<sup>4</sup> is the same as 40,000." She has made a mistake in her thinking. Use words, numbers, or a place value chart to help Tia correct her mistake.

- 5. Solve  $247 \div 10^2$  and  $247 \times 10^2$ .
  - a. What is different about the two answers? Use words, numbers, or pictures to explain how the digits shift.

$$247 \div 100 = 2.47$$
  $247 \times 100 = 24,700$   
2.47 is 100 times smaller than 247.  
24,700 is 100 times larger than 247

b. Based on the answers from the pair of expressions above, solve  $247 \div 10^3$  and  $247 \times 10^3$ .







10	10 ×	

powers of 10 chart









Name	Date	

Convert and write an equation with an exponent. Use your meter strip when it helps you.

3 meters to centimeters

$$3 \text{ m} = 300 \text{ cm}$$

$$3 \times 10^2 = 300$$

105 centimeters to meters

1.68 meters to centimeters

80 centimeters to meters

9.2 meters to centimeters

f. 4 centimeters to meters

In the space below, list the letters of the problems where larger units are converted to smaller units.

2. Convert using an equation with an exponent. Use your meter strip when it helps you.

a. 3 meters to millimeters

m =	mm

1.2 meters to millimeters

1,020 millimeters to meters

97 millimeters to meters

7.28 meters to millimeters

4 millimeters to meters

In the space below, list the letters of the problems where smaller units are converted to larger units.





3. Read each aloud as you write the equivalent measures. Write an equation with an exponent you might use to convert.

a. 3.512 m = \_\_\_\_\_ mm  $3.512 \times 10^3 = 3,512$ 

b. 8 cm =

\_\_\_\_\_ m

c. 42 mm = \_\_\_\_\_ m

d. 0.05 m =

mm

\_\_\_\_\_ cm

e. 0.002 m =

4. The length of the bar for a high jump competition must always be 4.75 m. Express this measurement in millimeters. Explain your thinking. Include an equation with an exponent in your explanation.

5. A honey bee's length measures 1 cm. Express this measurement in meters. Explain your thinking. Include an equation with an exponent in your explanation.

6. Explain why converting from meters to centimeters uses a different exponent than converting from meters to millimeters.





Date \_\_\_\_\_

Convert and write an equation with an exponent. Use your meter strip when it helps you.

1 meter = 100 cm

a. 2 meters to centimeters

$$2m = 200 cm$$

$$2 \times 10^2 = 200$$

b. 108 centimeters to meters

$$108 \text{ cm} = 1.08 \text{ m}$$

2.49 meters to centimeters

d. 50 centimeters to meters

7 centimeters to meters

e. 6.3 meters to centimeters

- In the space below, list the letters of the problems where smaller units are converted to larger units.
- 2. Convert using an equation with an exponent. Use your meter strip when it helps you.

a. 4 meters to millimeters

1.7 meters to millimeters

1,050 millimeters to meters

d. 65 millimeters to meters

e. 4.92 meters to millimeters

\_\_\_\_\_ mm = \_\_\_\_\_ m

3 millimeters to meters

In the space below, list the letters of the problems where larger units are converted to smaller units.



3. Read each aloud as you write the equivalent measures. Write an equation with an exponent you might use to convert.

a. 2.638 m = \_\_\_\_\_ mm  $2.638 \times 10^3 = 2,638$ 

b. 7 cm

c. 39 mm

d. 0.08 m = \_\_\_\_\_ mm

e. 0.005 m = \_\_\_\_\_ cm

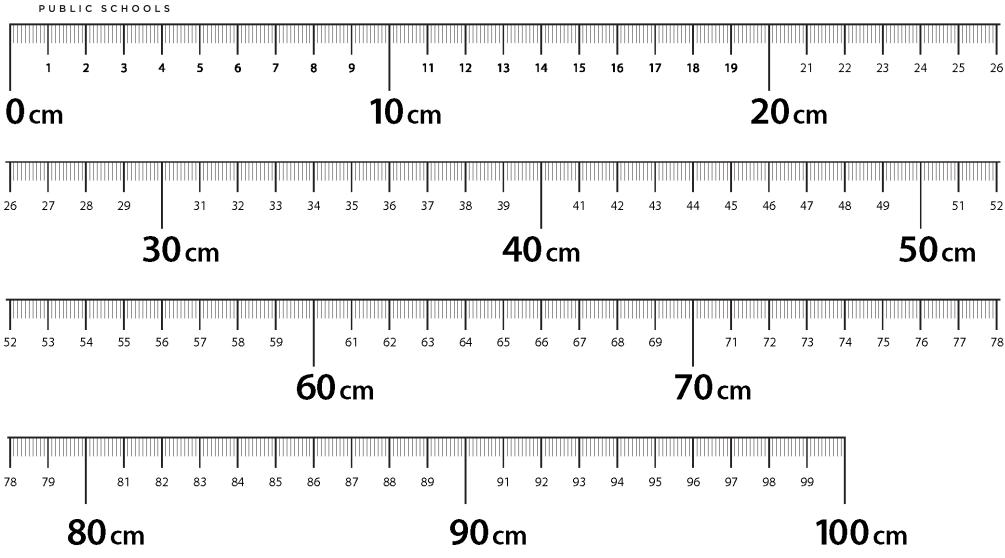
4. Yi Ting's height is 1.49 m. Express this measurement in millimeters. Explain your thinking. Include an equation with an exponent in your explanation.

5. A ladybug's length measures 2 cm. Express this measurement in meters. Explain your thinking. Include an equation with an exponent in your explanation.

6. The length of a sticky note measures 77 millimeters. Express this length in meters. Explain your thinking. Include an equation with an exponent in your explanation.









meter strip







Name	Date

1. Express as decimal numerals. The first one is done for you.

a.	Four thousandths	0.004
b.	Twenty-four thousandths	
c.	One and three hundred twenty-four thousandths	
d.	Six hundred eight thousandths	
e.	Six hundred and eight thousandths	
f.	46 1000	
g.	$3\frac{946}{1000}$	
h.	$200\frac{904}{1000}$	

2. Express each of the following values in words.

a.	0.005	

3. Write the number on a place value chart. Then, write it in expanded form using fractions or decimals to express the decimal place value units. The first one is done for you.

a. 35.827

Tens	Ones		Tenths	Hundredths	Thousandths
3	5	•	8	2	7

$$35.827 = 3 \times 10 + 5 \times 1 + 8 \times \left(\frac{1}{100}\right) + 2 \times \left(\frac{1}{100}\right) + 7 \times \left(\frac{1}{1000}\right) \quad or$$
$$= 3 \times 10 + 5 \times 1 + 8 \times 0.1 + 2 \times 0.01 + 7 \times 0.001$$



b. 0.249

c. 57.281

4. Write a decimal for each of the following. Use a place value chart to help, if necessary.

a. 
$$7 \times 10 + 4 \times 1 + 6 \times \left(\frac{1}{10}\right) + 9 \times \left(\frac{1}{100}\right) + 2 \times \left(\frac{1}{1000}\right)$$

b. 
$$5 \times 100 + 3 \times 10 + 8 \times 0.1 + 9 \times 0.001$$

c. 
$$4 \times 1,000 + 2 \times 100 + 7 \times 1 + 3 \times \left(\frac{1}{100}\right) + 4 \times \left(\frac{1}{1000}\right)$$

5. Mr. Pham wrote 2.619 on the board. Christy says it is two and six hundred nineteen thousandths. Amy says it is 2 ones 6 tenths 1 hundredth 9 thousandths. Who is right? Use words and numbers to explain your answer.





Name	Date	

1. Express as decimal numerals. The first one is done for you.

a.	Five thousandths	0.005
b.	Thirty-five thousandths	0.035
c.	Nine and two hundred thirty-five thousandths	
d.	Eight hundred and five thousandths	
e.	<u>8</u> 1000	0.008
f.	$\frac{28}{1000}$	
g.	$7\frac{528}{1000}$	
h.	$300\frac{502}{1000}$	300.502

2. Express each of the following values in words.

a.	0.008	eight thousandths	

b. 15.062 \_\_\_\_\_

c. 607.409 \_\_\_\_\_

3. Write the number on a place value chart. Then, write it in expanded form using fractions or decimals to express the decimal place value units. The first one is done for you.

a. 27.346

Tens	Ones	Tenths	Hundredths	Thousandths
2	7	3	4	6

$$27.346 = 2 \times 10 + 7 \times 1 + 3 \times \left(\frac{1}{10}\right) + 4 \times \left(\frac{1}{100}\right) + 6 \times \left(\frac{1}{1000}\right) \text{ or}$$
$$27.346 = 2 \times 10 + 7 \times 1 + 3 \times 0.1 + 4 \times 0.01 + 6 \times 0.001$$





b. 0.362

c. 49.564

4. Write a decimal for each of the following. Use a place value chart to help, if necessary.

a. 
$$3 \times 10 + 5 \times 1 + 2 \times \left(\frac{1}{10}\right) + 7 \times \left(\frac{1}{100}\right) + 6 \times \left(\frac{1}{1000}\right)$$

b. 
$$9 \times 100 + 2 \times 10 + 3 \times 0.1 + 7 \times 0.001$$

c. 
$$5 \times 1000 + 4 \times 100 + 8 \times 1 + 6 \times \left(\frac{1}{100}\right) + 5 \times \left(\frac{1}{1000}\right)$$

- 5. At the beginning of a lesson, a piece of chalk is 4.875 inches long. At the end of the lesson, it is 3.125 inches long. Write the two amounts in expanded form using fractions.
  - a. At the beginning of the lesson:
  - b. At the end of the lesson:
- 6. Mrs. Herman asked the class to write an expanded form for 412.638. Nancy wrote the expanded form using fractions, and Charles wrote the expanded form using decimals. Write their responses.





Thousandths	
Hundredths	
Tenths	
Ones	
Tens	
Hundreds	
Thousands	

thousands through thousandths place value chart



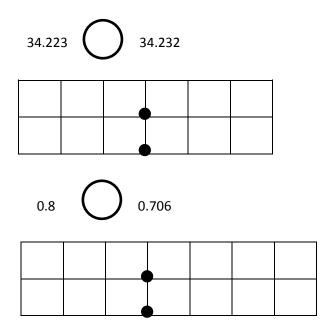






Name	Date	

1. Show the numbers on the place value chart using digits. Use >, <, or = to compare. Explain your thinking in the space to the right.



2. Use >, <, or = to compare the following. Use a place value chart to help, if necessary.

a.	16.3	16.4
b.	0.83	83 100
c.	205 1000	0.205
d.	95.580	95.58
e.	9.1	9.099
f.	8.3	83 tenths
g.	5.8	Fifty-eight hundredths



h.	Thirty-six and nine thousandths	4 tens
i.	202 hundredths	2 hundreds and 2 thousandths
j.	One hundred fifty-eight thousandths	158,000
k.	4.15	415 tenths

2	Arrange the	numbers in	incressing	0 4 9 4
э.	Arrange the	numbers in	ilicieasilig	oruer.

a. 3.049 3.059 3.05 3.04

b. 182.205 182.05 182.105 182.025

4. Arrange the numbers in decreasing order.

a. 7.608 7.68 7.6 7.068

b. 439.216 439.126 439.612 439.261



5.	Lance measured 0.485 liter of water. Angel measured 0.5 liter of water. Lance said, "My beaker has
	more water than yours because my number has three decimal places and yours only has one." Is Lance
	correct? Use words and numbers to explain your answer.

6. Dr. Hong prescribed 0.019 liter more medicine than Dr. Tannenbaum. Dr. Evans prescribed 0.02 less than Dr. Hong. Who prescribed the most medicine? Who prescribed the least?











	>, <, or = to compare the following.		16.454
a. 	16.45		16.454
ე.	0.83	$\bigcirc$	83 100
	205 1000 <b>0.205</b>		0.205
d.	95.045	$\bigcirc$	95.545
e.	419.10	$\bigcirc$	419.099
f.	Five ones and eight tenths	$\bigcirc$	Fifty-eight tenths
g.	Thirty-six and nine thousandths	$\bigcirc$	Four tens
h.	One hundred four and twelve hundredths	$\bigcirc$	One hundred four and two thousandths
i.	One hundred fifty-eight thousandths	$\bigcirc$	0.58
j.	703.005		Seven hundred three and five hundredths



b. 14.204 14.200 14.240 14.210



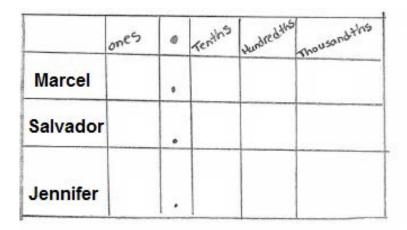
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- 3. Arrange the numbers in decreasing order.
  - a. 8.508 8.58 7.5 7.058

b. 439.216 439.126 439.612 439.261

4. James measured his hand. It was 0.17 meter. Jennifer measured her hand. It was 0.165 meter. Whose hand is bigger? How do you know?

5. In a paper airplane contest, Marcel's plane travels 3.345 meters. Salvador's plane travels 3.35 meters. Jennifer's plane travels 3.3 meters. Based on the measurements, whose plane traveled the farthest distance? Whose plane traveled the shortest distance? Explain your reasoning using a place value chart.





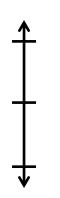
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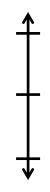
Fill in the table, and then round to the given place. Label the number lines to show your work. Circle the rounded number.

## 1. 3.1

- a. Hundredths
- b. Tenths
- c. Tens



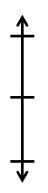


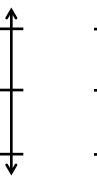


Tens	Ones	Tenths	Hundredths	Thousandths

## 2. 115.376

- a. Hundredths
- b. Ones
- c. Tens





1	<u>\</u>
1	_

Tens	Ones	Tenths	Hundredths	Thousandths

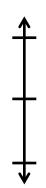


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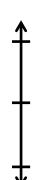
3. 0.994

Tens	Ones	Tenths	Hundredths	Thousandths

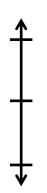
Hundredths



b. Tenths



c. Ones



d. Tens



4. For open international competition, the throwing circle in the men's shot put must have a diameter of 2.135 meters. Round this number to the nearest hundredth. Use a number line to show your work.

5. Jen's pedometer said she walked 2.549 miles. She rounded her distance to 3 miles. Her brother rounded her distance to 2.5 miles. When they argued about it, their mom said they were both right. Explain how that could be true. Use number lines and words to explain your reasoning.



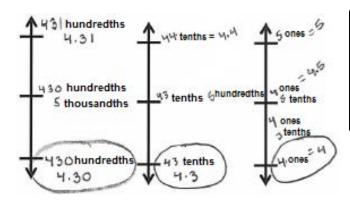
Name	Date	

Fill in the table, and then round to the given place. Label the number lines to show your work. Circle the rounded number.

# 1. 4.3

a.	Hundredths

h	 ГΔ	n	t k	1



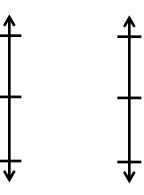
Tens	Ones	Tenths	Hundredths	Thousandths
	`			

## 2. 225.286

a. Hundredths



b. Ones



c. Tens

Tens	Ones	Tenths	Hundredths	Thousandths





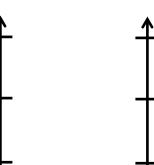
3. 8.984

Tens	Ones	Tenths	Hundredths	Thousandths

c. Ones

a. Hundredths

b. Tenths



d. Tens



- 4. On a Major League Baseball diamond, the distance from the pitcher's mound to home plate is 18.386 meters.
  - a. Round this number to the nearest hundredth of a meter. Use a number line to show your work.
  - b. How many centimeters is it from the pitcher's mound to home plate?
- 5. Jules reads that 1 pint is equivalent to 0.473 liters. He asks his teacher how many liters there are in a pint. His teacher responds that there are about 0.47 liters in a pint. He asks his parents, and they say there are about 0.5 liters in a pint. Jules says they are both correct. How can that be true? Explain your answer.



Thousandths			
Hundredths			
Tenths			
•			
Ones			
Tens			
Hundreds			

hundreds to thousandths place value chart









Name	Date	

- 1. Write the decomposition that helps you, and then round to the given place value. Draw number lines to explain your thinking. Circle the rounded value on each number line.
  - a. Round 32.697 to the nearest tenth, hundredth, and one.

b. Round 141.999 to the nearest tenth, hundredth, ten, and hundred.

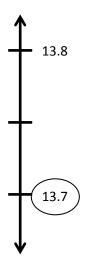
2. A root beer factory produces 132,554 cases in 100 days. About how many cases does the factory produce in 1 day? Round your answer to the nearest tenth of a case. Show your thinking on the number line.







- 3. A decimal number has two digits to the right of its decimal point. If we round it to the nearest tenth, the result is 13.7.
  - a. What is the maximum possible value of this number? Use words and the number line to explain your reasoning. Include the midpoint on your number line.



b. What is the minimum possible value of this decimal? Use words and the number line to explain your reasoning. Include the midpoint on your number line.



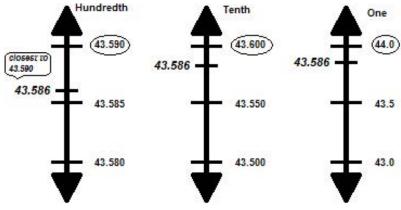


PUBLIC SCHOOLS

Name	Date

1. Write the decomposition that helps you, and then round to the given place value. Draw number lines to explain your thinking. Circle the rounded value on each number line.

a. 43.586 to the nearest tenth, hundredth, and one.



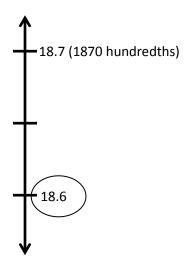
b. 243.875 to nearest tenth, hundredth, ten, and hundred.

2. A trip from New York City to Seattle is 2,852.1 miles. A family wants to make the drive in 10 days, driving the same number of miles each day. About how many miles will they drive each day? Round your answer to the nearest tenth of a mile.

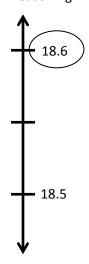




- 3. A decimal number has two digits to the right of its decimal point. If we round it to the nearest tenth, the result is 18.6.
  - a. What is the maximum possible value of this number? Use words and the number line to explain your reasoning. Include the midpoint on your number line.



b. What is the minimum possible value of this decimal? Use words, pictures, or numbers to explain your reasoning.





PUBLIC SCHOOLS

Name \_\_\_\_ Date \_\_\_\_

- Solve, and then write the sum in standard form. Use a place value chart if necessary.
  - a. 1 tenth + 2 tenths = \_\_\_\_\_ tenths = \_\_\_\_
  - b. 14 tenths + 9 tenths = \_\_\_\_\_ tenths = \_\_\_\_ one(s) \_\_\_\_ tenth(s) = \_\_\_\_
  - c. 1 hundredth + 2 hundredths = \_\_\_\_\_ hundredths = \_\_\_\_\_
  - d. 27 hundredths + 5 hundredths = \_\_\_\_\_ hundredths = \_\_\_\_\_ hundredths = \_\_\_\_\_
  - e. 1 thousandth + 2 thousandths = \_\_\_\_\_ thousandths = \_\_\_\_\_
  - 35 thousandths + 8 thousandths = \_\_\_\_ thousandths = \_\_\_\_ hundredths \_\_\_\_ thousandths = \_\_\_\_
  - 6 tenths + 3 thousandths = \_\_\_\_\_ thousandths = \_\_\_\_\_
  - h. 7 ones 2 tenths + 4 tenths = \_\_\_\_\_ tenths = \_\_\_\_
  - 2 thousandths + 9 ones 5 thousandths = \_\_\_\_\_ thousandths = \_\_\_\_
- Solve using the standard algorithm.





e. 62.573 + 4.328 =	f. 85.703 + 12.197 =

- 3. Van Cortlandt Park's walking trail is 1.02 km longer than Marine Park's. Central Park's walking trail is 0.242 km longer than Van Cortlandt's.
  - a. Fill in the missing information in the chart below.

New York City Walking Trails		
Central Parkkm		
Marine Park	1.28 km	
Van Cortlandt Park	km	

b. If a tourist walked all 3 trails in a day, how many kilometers would he or she have walked?

4. Meyer has 0.64 GB of space remaining on his iPod. He wants to download a pedometer app (0.24 GB), a photo app (0.403 GB), and a math app (0.3 GB). Which combinations of apps can he download? Explain your thinking.





Name \_\_\_\_\_ Date \_\_\_\_\_

1. Solve.

- a. 3 tenths + 4 tenths = \_\_\_\_\_ tenths
- b. 12 tenths + 9 tenths = \_\_\_\_\_ tenths = \_\_\_\_\_ one(s) \_\_\_\_ tenth(s)
- c. 3 hundredths + 4 hundredths = \_\_\_\_ hundredths
- d. 27 hundredths + 7 hundredths = **34** hundredths = **3** tenths **4** hundredths
- e. 4 ones 4 tenths + 4 tenths = \_\_\_\_\_ tenths

2. Solve using the standard algorithm.

a. 0.4 + 0.7 =	b. 2.04 + 0.07 =
c. 6.4 + 3.7 =	d. 56.04 + 3.07 =



e. 72.564 + 5.137 =	f. 75.604 + 22.296 =

- 3. Walkway Over the Hudson, a bridge that crosses the Hudson River in Poughkeepsie, is 2.063 kilometers long. Anping Bridge, which was built in China 850 years ago, is 2.07 kilometers long.
  - a. What is the total span of both bridges? Show your thinking.

	ones	tenths	hundredths	thousandths
Hudson	2	0	6	3
Anping	2	0	T	

b. Leah likes to walk her dog on the Walkway Over the Hudson. If she walks across and back, how far will she and her dog walk?

Leah walked 4.126 km. 42.063

4. For his parents' anniversary, Danny spends \$5.87 on a photo. He also buys a balloon for \$2.49 and a box of strawberries for \$4.50. How much money does he spend all together?



Name \_\_\_\_\_ Date \_\_\_\_

1. Subtract, writing the difference in standard form. You may use a place value chart to solve.

a. 5 tenths – 2 tenths = \_\_\_\_\_ tenths = \_\_\_\_

b. 5 ones 9 thousandths – 2 ones = \_\_\_\_\_ ones \_\_\_\_\_ thousandths = \_\_\_\_\_

c. 7 hundreds 8 hundredths – 4 hundredths = \_\_\_\_\_ hundreds \_\_\_\_ hundredths = \_\_\_\_

d. 37 thousandths – 16 thousandths = \_\_\_\_\_ thousandths = \_\_\_\_

2. Solve using the standard algorithm.

a. 1.4 – 0.7 =	b. 91.49 – 0.7 =	c. 191.49 – 10.72 =
d. 7.148 – 0.07 =	e. 60.91 – 2.856 =	f. 361.31 – 2.841 =





#### 3. Solve.

a.	10 tens – 1 ten 1 tenth	b.	3 – 22 tenths	c.	37 tenths – 1 one 2 tenths
d.	8 ones 9 hundredths – 3.4	e.	5.622 – 3 hundredths	f.	2 ones 4 tenths – 0.59

4. Mrs. Fan wrote 5 tenths minus 3 hundredths on the board. Michael said the answer is 2 tenths because 5 minus 3 is 2. Is he correct? Explain.

5. A pen costs \$2.09. It costs \$0.45 less than a marker. Ken paid for one pen and one marker with a five-dollar bill. Use a tape diagram with calculations to determine his change.





Name Date
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- 1. Subtract. You may use a place value chart.
  - a. 9 tenths 3 tenths = **6** tenths
  - b. 9 ones 2 thousandths 3 ones = \_\_\_\_\_ones \_\_\_\_thousandths
  - c. 4 hundreds 6 hundredths 3 hundredths = \_\_\_\_\_hundreds \_\_\_\_hundredths
  - d. 56 thousandths 23 thousandths = \_\_\_\_\_thousandths = \_\_\_\_\_hundredths \_\_\_\_\_thousandths
- 2. Solve using the standard algorithm.

a. 1.8 – 0.9 =	b. 41.84 – 0.9 =	c. 341.84 – 21.92 =
d. 5.182 – 0.09 =	e. 50.416 – 4.25 =	f. 741 – 3.91 =



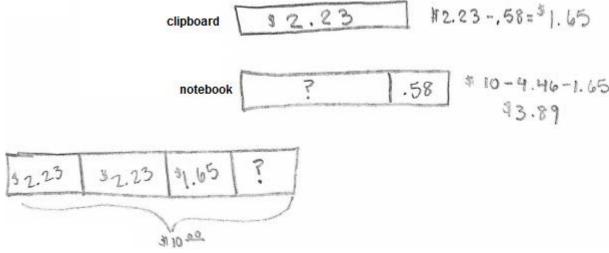


#### 3. Solve.

a.	30 tens – 3 tens 3 tenths	b.	5 – 16 tenths	c.	24 tenths – 1 one 3 tenths
	300-30.3				
	269.7				
<u> </u>					
d.	6 ones 7 hundredths – 2.3	e.	8.246 – 5 hundredths	f.	5 ones 3 tenths – 0.53
					5.353
					4 12 10
					-0.53
					4.77

4. Mr. House wrote 8 tenths minus 5 hundredths on the board. Maggie said the answer is 3 hundredths because 8 minus 5 is 3. Is she correct? Explain.

5. A clipboard costs \$2.23. It costs \$0.58 more than a notebook. Lisa bought two clipboards and one notebook. She paid with a ten dollar bill. How much change does Lisa get? Use a tape diagram to show your thinking.







Name	Date	

- 1. Solve by drawing disks on a place value chart. Write an equation, and express the product in standard form.
  - a. 3 copies of 2 tenths

b. 5 groups of 2 hundredths

c. 3 times 6 tenths

d. 6 times 4 hundredths

e. 5 times as much as 7 tenths

- f. 4 thousandths times 3
- 2. Draw a model similar to the one pictured below for Parts (b), (c), and (d). Find the sum of the partial products to evaluate each expression.

a. 
$$7 \times 3.12$$

$$7 \times 3 \text{ ones}$$
 + 1 tenth + 2 hundredths 7 × 3 ones 7 × 1 tenth 7 × 2 hundredths

0.14

b.  $6 \times 4.25$ 





c.	3	copies	of	4.65
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d.	4 times	as much	as 20.075

3. Miles incorrectly gave the product of  $7 \times 2.6$  as 14.42. Use a place value chart or an area model to help Miles understand his mistake.

4. Mrs. Zamir wants to buy 8 protractors and some erasers for her classroom. She has \$30. If protractors cost \$2.65 each, how much will Mrs. Zamir have left to buy erasers?

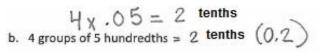


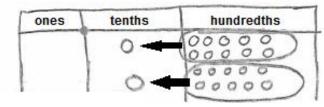




Name	Date	
Ivallic	Date	

- 1. Solve by drawing disks on a place value chart. Write an equation, and express the product in standard form.
  - a. 2 copies of 4 tenths





c. 4 times 7 tenths

d. 3 times 5 hundredths

e. 9 times as much as 7 tenths

f. 6 thousandths times 8

- 2. Draw a model similar to the one pictured below. Find the sum of the partial products to evaluate each expression.
  - a.  $4 \times 6.79$

0 Offics	1 / (CITCIS 1	J Hanarcaths
4 × 6 ones	4 × 7 tenths	4 × 9 hundredths

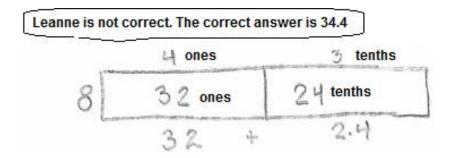
\_\_\_\_\_ + \_\_\_\_ + \_\_\_\_ = \_\_\_\_



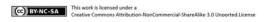
- b.  $6 \times 7.49$
- c. 9 copies of 3.65

d. 3 times 20.175

3. Leanne multiplied  $8 \times 4.3$  and got 32.24. Is Leanne correct? Use an area model to explain your answer.



4. Anna buys groceries for her family. Hamburger meat is \$3.38 per pound, sweet potatoes are \$0.79 each, and hamburger rolls are \$2.30 a bag. If Anna buys 3 pounds of meat, 5 sweet potatoes, and 1 bag of hamburger rolls, what will she pay in all for the groceries?





Name	Date
Name	Date

- 1. Choose the reasonable product for each expression. Explain your reasoning in the spaces below using words, pictures, or numbers.
  - a.  $2.5 \times 4$

- 0.1
- 1
- 10
- 100

b.  $3.14 \times 7$ 

2198

219.8

21.98

2.198

c.  $8 \times 6.022$ 

4.8176

48.176

481.76

4817.6

d.  $9 \times 5.48$ 

493.2

49.32

4.932

0.4932





2.	Pedro is building a spice rack with 4 shelves that are each 0.55 meter long. At the hardware store, Pedro
	finds that he can only buy the shelving in whole meter lengths. Exactly how many meters of shelving
	does Pedro need? Since he can only buy whole-number lengths, how many meters of shelving should he
	buy? Justify your thinking.

3. Marcel rides his bicycle to school and back on Tuesdays and Thursdays. He lives 3.62 kilometers away from school. Marcel's gym teacher wants to know about how many kilometers he bikes in a week. Marcel's math teacher wants to know exactly how many kilometers he bikes in a week. What should Marcel tell each teacher? Show your work.

4. The poetry club had its first bake sale, and they made \$79.35. The club members are planning to have 4 more bake sales. Leslie said, "If we make the same amount at each bake sale, we'll earn \$3,967.50." Peggy said, "No way, Leslie! We'll earn \$396.75 after five bake sales." Use estimation to help Peggy explain why Leslie's reasoning is inaccurate. Show your reasoning using words, numbers, or pictures.







Name \_\_\_\_\_ Date \_\_\_\_

1. Choose the reasonable product for each expression. Explain your thinking in the spaces below using words, pictures, or numbers.

a.  $2.1 \times 3$ 

0.63

6.3

63

630

b. 4.27 × 6

2562

256.2

25.62

2.562

4x6=24

c.  $7 \times 6.053$ 

4237.1

423.71

42.371

4.2371

d.  $9 \times 4.82$ 

4.338

43.38

433.8

4338

2. Yi Ting weighs 8.3 kg. Her older brother is 4 times as heavy as Yi Ting. How much does her older brother weigh in kilograms?



3.	Tim is painting his storage shed. He buys 4 gallons of white paint, and 3 gallons of blue paint. Each gallon
	of white paint costs \$15.72, and each gallon of blue paints is \$21.87. How much will Tim spend in all on
	paint?

4. Ribbon is sold at 3 yards for \$6.33. Jackie bought 24 yards of ribbon for a project. How much did she pay?







Date \_\_\_\_\_

1. Complete the sentences with the correct number of units, and then complete the equation.

a. 4 groups of \_\_\_\_\_ tenths is 1.6.

1.6 ÷ 4 = \_\_\_\_\_

b. 8 groups of \_\_\_\_\_ hundredths is 0.32.

0.32 ÷ 8 = \_\_\_\_\_

c. 7 groups of thousandths is 0.084.

 $0.084 \div 7 =$ 

d. 5 groups of \_\_\_\_\_ tenths is 2.0.

2.0 ÷ 5 = \_\_\_\_\_

2. Complete the number sentence. Express the quotient in units and then in standard form.

a. 4.2 ÷ 7 = \_\_\_\_\_ tenths ÷ 7 = \_\_\_\_\_ tenths = \_\_\_\_

b. 2.64 ÷ 2 = \_\_\_\_\_ ones ÷ 2 + \_\_\_\_\_ hundredths ÷ 2 = \_\_\_\_\_ ones + \_\_\_\_\_ hundredths

c.  $12.64 \div 2 =$  \_\_\_\_\_ ones  $\div 2 +$  \_\_\_\_\_ hundredths  $\div 2$ = ones + hundredths

d.  $4.26 \div 6 =$  \_\_\_\_\_ tenths  $\div 6 +$  \_\_\_\_\_ hundredths  $\div 6$ 





3. Find the quotients. Then, use words, numbers, or pictures to describe any relationships you notice between each pair of problems and quotients.

4. Are the quotients below reasonable? Explain your answers.

a. 
$$5.6 \div 7 = 8$$

b. 
$$56 \div 7 = 0.8$$

c. 
$$0.56 \div 7 = 0.08$$





5. 17	2.48 milliliters of med	icine were separated	d into doses of 4	1 mL each.	How many de	oses were ma	de?
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6. The price of milk in 2013 was around \$3.28 a gallon. This was eight times as much as you would have probably paid for a gallon of milk in the 1950s. What was the cost for a gallon of milk during the 1950s? Use a tape diagram, and show your calculations.











Date \_\_\_\_\_

- 1. Complete the sentences with the correct number of units, and then complete the equation.
  - a. 3 groups of <u>5</u> tenths is 1.5.

1.5 ÷ 3 = \_\_\_\_\_

b. 6 groups of \_\_\_\_\_ hundredths is 0.24.

0.24 ÷ 6 = \_\_\_\_

c. 5 groups of 9 thousandths is 0.045.  $0.045 \div 5 = 0.009$ 

2. Complete the number sentence. Express the quotient in units and then in standard form.

a.  $9.36 \div 3 = 9$  ones  $\div 3 + 36$  hundredths  $\div 3$ = 3.12

b.  $36.012 \div 3 =$  \_\_\_\_\_ ones  $\div 3 +$  \_\_\_\_\_ thousandths  $\div 3$ = \_\_\_\_\_ ones + \_\_\_\_\_ thousandths

c.  $3.55 \div 5 =$  \_\_\_\_\_ tenths  $\div 5 +$  \_\_\_\_\_ hundredths  $\div 5$ 



3. Find the quotients. Then, use words, numbers, or pictures to describe any relationships you notice between each pair of problems and quotients.

a. 21 ÷ 7 = \_\_\_\_\_

0.048 ÷ 8 = , O () (p

The first quotient is 1,000 times greater than the second.

4. Are the quotients below reasonable? Explain your answers.

a.  $0.54 \div 6 = 9$ 

b.  $5.4 \div 6 = 0.9$ 



c. 
$$54 \div 6 = 0.09$$

5. A toy airplane costs \$4.84. It costs 4 times as much as a toy car. What is the cost of the toy car?

$$4.84 \div 4 =$$
 $4 \text{ ones} \div 4 \div 8 \text{ tenths} \div 4 + 4 \text{ hundredths} \div 4 =$ 
 $4 \text{ one} + 2 \text{ tenths} + 1 \text{ hundredth}$ 
 $4.84 \div 4 = 1.21$ 
The car costs \$1.21.

6. Julian bought 3.9 liters of cranberry juice, and Jay bought 8.74 liters of apple juice. They mixed the two juices together, and then poured them equally into 2 bottles. How many liters of juice are in each bottle?











Name Date
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- 1. Draw place value disks on the place value chart to solve. Show each step using the standard algorithm.
  - a.  $4.236 \div 3 =$ \_\_\_\_\_

Ones	Tenths	Hundredths	Thousandths

3 4.236

b. 1.324 ÷ 2 = \_\_\_\_\_

Ones	Tenths	Hundredths	Thousandths

2 1. 3 2 4







2. Solve using the standard algorithm.

a. 0.78 ÷ 3 =	b. 7.28 ÷ 4 =	c. 17.45 ÷ 5 =

3. Grayson wrote  $1.47 \div 7 = 2.1$  in her math journal. Use words, numbers, or pictures to explain why Grayson's thinking is incorrect.

4. Mrs. Nguyen used 1.48 meters of netting to make 4 identical mini hockey goals. How much netting did she use per goal?

5. Esperanza usually buys avocados for \$0.94 apiece. During a sale, she gets 5 avocados for \$4.10. How much money did she save per avocado? Use a tape diagram, and show your calculations.





Date \_\_\_\_\_

- 1. Draw place value disks on the place value chart to solve. Show each step using the standard algorithm.
  - a. 5.241 ÷ 3 = \_\_\_\_\_

Ones	Tenths	Hundredths	Thousandths
OOKK	\$ 0 900090000	<del>00-0-0</del>	20000000000000000000000000000000000000
0 -		100	0000000
0	0000000	0000	0000000
0	000 0 000	0000	000000

	1.	7	4	7	
3	5.	2	4	1	

b. 5.372 ÷ 4 = \_\_\_\_\_

Ones	Tenths	Hundredths	Thousandths
_			

4 5.372



2. Solve using the standard algorithm.

a. 0.64 ÷ 4 =	b. 6.45 ÷ 5 =	c. 16.404 ÷ 6 =

3. Mrs. Mayuko paid \$40.68 for 3 kg of shrimp. What's the cost of 1 kilogram of shrimp?



4. The total weight of 6 pieces of butter and a bag of sugar is 3.8 lb. If the weight of the bag of sugar is 1.4 lb, what is the weight of each piece of butter?



Name	Date	
Name	Datc	

- 1. Draw place value disks on the place value chart to solve. Show each step in the standard algorithm.
  - a.  $0.5 \div 2 =$

Ones	•	Tenths	Hundredths	Thousandths

b. 5.7 ÷ 4 = \_\_\_\_\_

Ones	•	Tenths	Hundredths	Thousandths

4 5 . 7





2. Solve using the standard algorithm.

a. 0.9 ÷ 2 =	b. 9.1 ÷ 5 =	c. 9 ÷ 6 =
d. 0.98 ÷ 4 =	e. 9.3 ÷ 6 =	f. 91 ÷ 4 =

3. Six bakers shared 7.5 kilograms of flour equally. How much flour did they each receive?

4. Mrs. Henderson makes punch by mixing 10.9 liters of apple juice, 0.6 liters of orange juice, and 8 liters of ginger ale. She pours the mixture equally into 6 large punch bowls. How much punch is in each bowl? Express your answer in liters.



Name	Date	
Name	Date	

- 1. Draw place value disks on the place value chart to solve. Show each step in the standard algorithm.
  - a. 0.7 ÷ 4 = \_\_\_\_\_

Ones	•	Tenths	Hundredths	Thousandths

b. 8.1 ÷ 5 = \_\_\_\_\_

Ones	•	Tenths	Hundredths	Thousandths

5 8.1



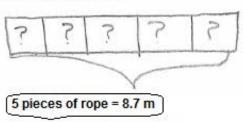


2. Solve using the standard algorithm.

a. 0.7 ÷ 2 =	b. 3.9 ÷ 6 =	c. 9 ÷ 4 =
d. 0.92 ÷ 2 =	e. 9.4 ÷ 4 =	f. 91 ÷ 8 =

3. A rope 8.7 meters long is cut into 5 equal pieces. How long is each piece?

 $8.7 \div 5 = 1.74$ 1 piece of rope = 1.74 m long.



5 18.70 -5 y 1 -35 1 -20 -20

4. Yasmine bought 6 gallons of apple juice. After filling up 4 bottles of the same size with apple juice, she had 0.3 gallon of apple juice left. How many gallons of apple juice are in each container?



Na	me	Date
Sol	lve.	
1.	Mr	Frye distributed \$126 equally among his 4 children for their weekly allowance.
	a.	How much money did each child receive?
	b.	John, the oldest child, paid his siblings to do his chores. If John pays his allowance equally to his brother and two sisters, how much money will each of his siblings have received in all?
2.		is 23 cm taller than Olivia, and Olivia is half the height of Lucas. If Lucas is 1.78 m tall, how tall are and Olivia? Express their heights in centimeters.





3. Mr. Hower can buy a computer with a down payment of \$510 and 8 monthly payments of \$35.75. If he pays cash for the computer, the cost is \$699.99. How much money will he save if he pays cash for the computer instead of paying for it in monthly payments?

4. Brandon mixed 6.83 lb of cashews with 3.57 lb of pistachios. After filling up 6 bags that were the same size with the mixture, he had 0.35 lb of nuts left. What was the weight of each bag? Use a tape diagram, and show your calculations.







- 5. The bakery bought 4 bags of flour containing 3.5 kg each. 0.475 kg of flour is needed to make a batch of muffins, and 0.65 kg is needed to make a loaf of bread.
  - a. If 4 batches of muffins and 5 loaves of bread are baked, how much flour will be left? Give your answer in kilograms.

b. The remaining flour is stored in bins that hold 3 kg each. How many bins will be needed to store the flour? Explain your answer.











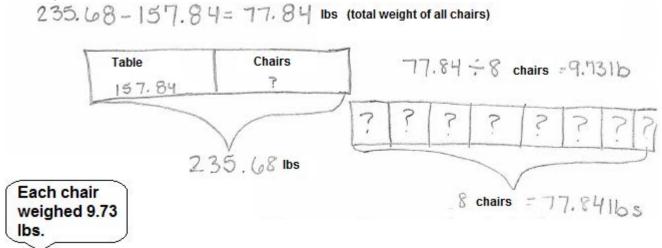
Name			Date		
So	lve ι	using tape diagrams.			
1.	me	-	week. He installed 13.45 meters on Monday and 9.5 e fence in equal lengths on Wednesday through Friday. ach of the last three days?		
2.	Jer	Jenny charges \$9.15 an hour to babysit toddlers and \$7.45 an hour to babysit school-aged children.			
	a.	If Jenny babysat toddlers for 9 hours and so earn in all?	chool-aged children for 6 hours, how much money did she		
	b.	Jenny wants to earn \$1,300 by the end of the meet her goal?	he summer. How much more will she need to earn to		







3. A table and 8 chairs weigh 235.68 lb together. If the table weighs 157.84 lb, what is the weight of one chair in pounds?



4. Mrs. Cleaver mixes 1.24 liters of red paint with 3 times as much blue paint to make purple paint. She pours the paint equally into 5 containers. How much blue paint is in each container? Give your answer in liters.



