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GRADE 5 • MODULE 1

Place Value and Decimal Fractions

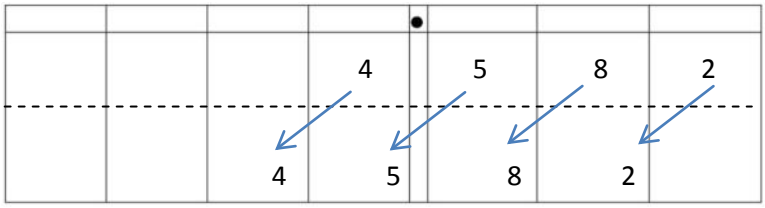
Answers

NOTE: Student sheets should be printed at 100% scale to preserve the intended size of figures for accurate measurements. Adjust copier or printer settings to *actual size* and set page scaling to *none*.

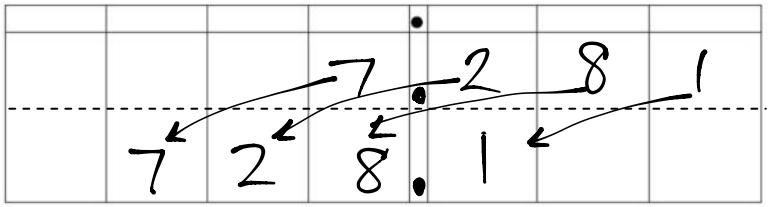
Name _____ Date _____

1. Record the digits of the first factor on the top row of the place value chart. Draw arrows to show how the value of each digit changes when you multiply. Record the product on the second row of the place value chart. The first one has been done for you.

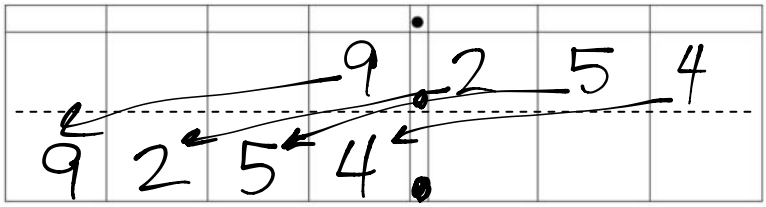
a. 4.582 x 10 = 45.82



b. 7.281 x 100 = 728.1



c. 9.254 x 1000 = 9254



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

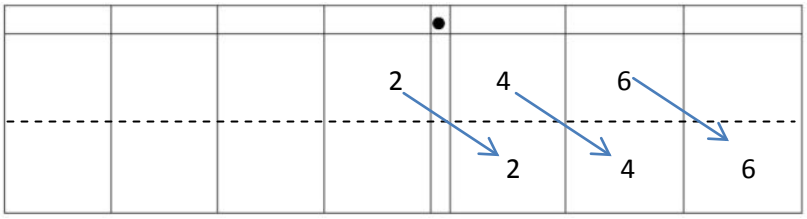
(a) The 2 became 10 times bigger.

(b) The 2 became 100 times bigger.

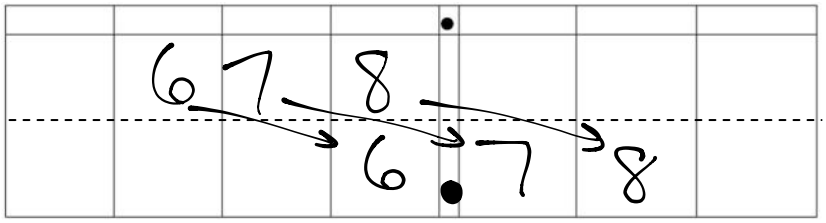
(c) The 2 became 1000 times bigger.

2. Record the digits of the dividend on the top row of the place value chart. Draw arrows to show how the value of each digit changes when you divide. Record the quotient on the second row of the place value chart. The first one has been done for you.

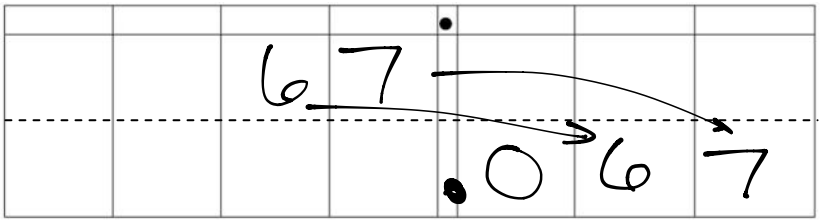
   a. 2.46 ÷ 10 = 0.246



   b. 678 ÷ 100 = 6.78



   c. 67 ÷ 1000= 0.067



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

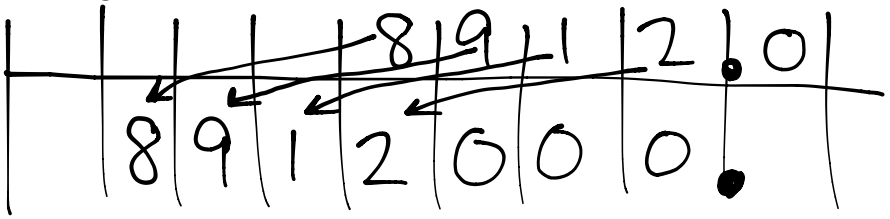
(a) The 6 became 10 times smaller.

(b) The 6 became 100 times smaller.

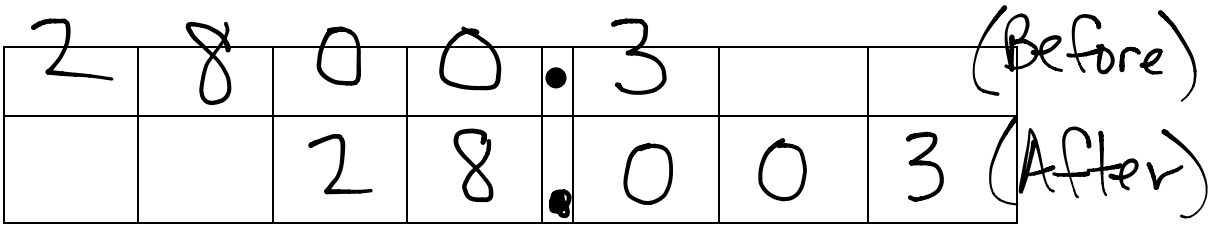
(c) The 6 became 1000 times smaller.

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 1000 times as large. About how many butterflies were at the site in all? Explain your thinking and include a statement of the solution.

8,912 × 1000 = 8,912,000



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.

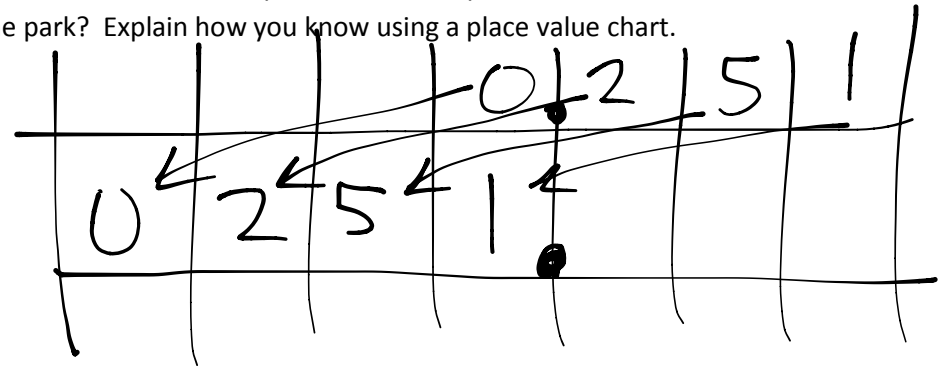


a. Explain how you decided what to draw on your place value chart. Be sure to include your reasoning about how the value of the digits was affected by the division.

Each digit in "After" should be 100 times smaller than "Before".

5. On a map, the perimeter of a park is 0.251 meters. The actual perimeter of the park is 1000 times as large. What is the actual perimeter of the park? Explain how you know using a place value chart.

0.251 × 1000 = 251



Name _____ Date _____

1. Solve.

a. 36,000 x 10 = 360,000

b. 36,000 ÷ 10 = 3,600

c. 4.3 x 10 = 43

d. 4.3 ÷ 10 = 0.43

e. 0.24 x 100 = 24

f. 24 ÷ 1000 = 0.024

g. 4.54 x 1000 = 4540

h. 3045.4 ÷ 100 = 30.454

2. Find the products.

a. 14,560 x 10 = 145600

b. 14,560 x 100 = 1456000

c. 14,560 x 1000 = 14560000

the number of zeros in 10 or 100 or 1000 tells how many columns to the left each digit gets moved.

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

3. Find the quotients.

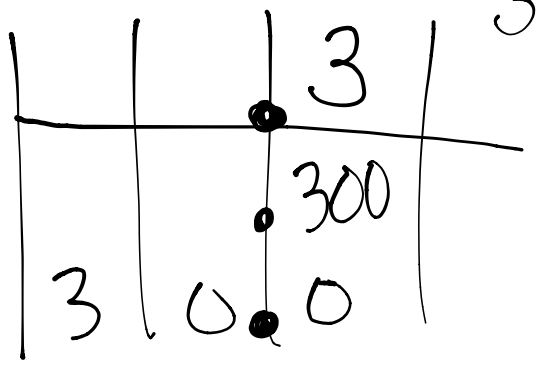
a. 1.65 ÷ 10 = 0.165

b. 1.65 ÷ 100 = 0.0165

the number of zeros in 10 or 100 or 1000 tells how many columns to the right each digit gets moved.

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

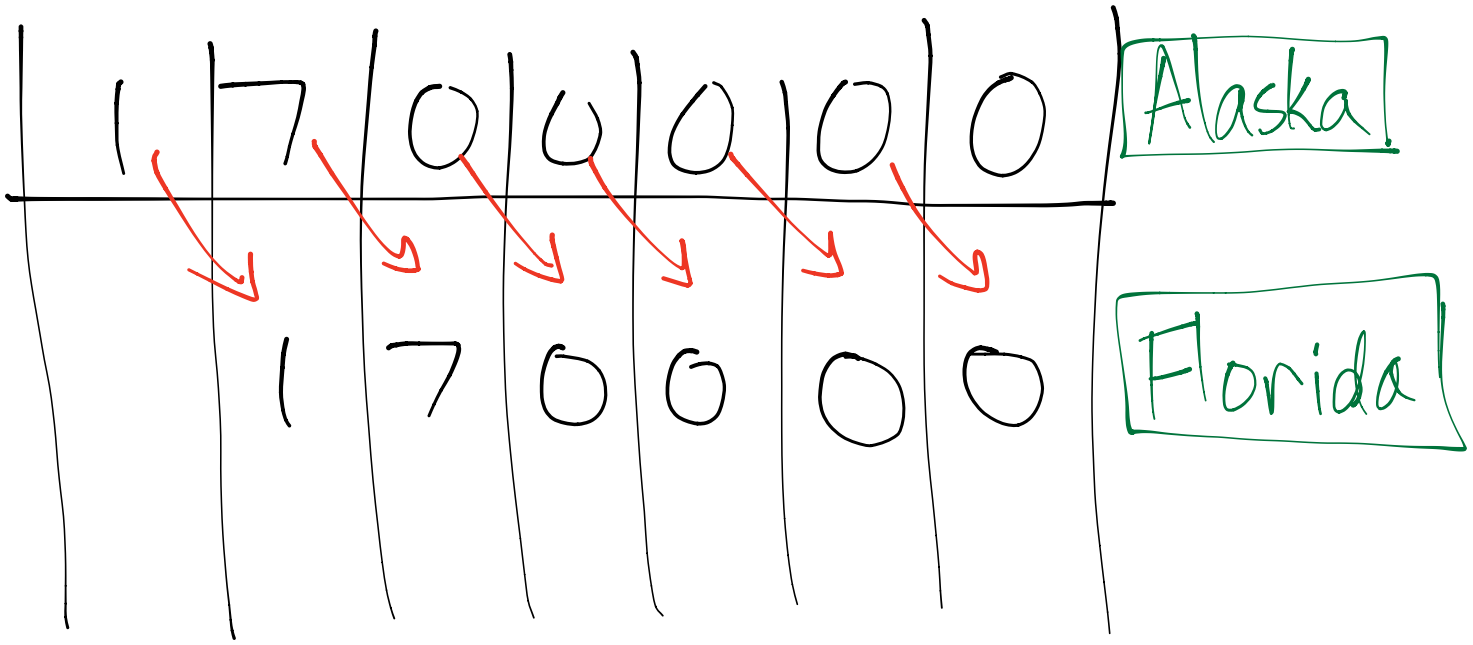
4. Ted says that 3 tenths multiplied by 100 equal 300 thousandths. Is he correct? Use a place value chart to explain your answer.



3 tenths x 100 = 300 tenths

300 tenths = 30

5. Alaska has a land area of about 1,700,000 km^2. Florida has a land area 1/10 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., $100 = 10^2$).

a. $1000 = 10^3$

b. $10 \times 10 = 10^2$

c. $100{,}000 = 10^5$

d. $100 \times 10 = 10^3$

e. $1{,}000{,}000 = 10^6$

f. $10{,}000 \times 10 = 10^5$

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

a. $4 \times 10^3 =$ 4000

b. $64 \times 10^4 =$ 640000

c. $5300 \div 10^2 =$ 53

d. $5{,}300{,}000 \div 10^3 =$ 5300

e. $6.072 \times 10^3 =$ 6072

f. $60.72 \times 10^4 =$ 607200

g. $948 \div 10^3 =$ 0.948

h. $9.4 \div 10^2 =$ 0.094

3. Complete the patterns.

a. 0.02 0.2 2 20 200 2000

b. 3,400,000 34,000 340 3.4 0.034

c. 85700 8,570 857 85.7 8.57 0.857

d. 444 4440 44,400 444000 4440000 44400000

e. 0.095 9.5 950 95,000 9500000 950000000

4. After a lesson on exponents, Tia went home and said to her mom, "I learned that 10^4 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.

Tia took the 4 and added 4 zeros. this is not the same as

$10^4 = 10 \times 10 \times 10 \times 10 = 10000$

5. Solve $247 \div 10^2$ and 247×10^2.

2.47 24700

a. What is different about the two answers? Use words, numbers or pictures to explain how the decimal point shifts.

Dividing by 100 makes the number smaller, so the decimal moves two spaces to the left.

Multiplying by 100 makes the number bigger, so the decimal moves two spaces to the right.

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

$247 \div 10^3 = 0.247$ $247 \times 10^3 = 247000$

Name _____ Date _____

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

a.	2 meters to centimeters	2m = 200 cm	$2 \times 10^2 = 200$
b.	108 centimeters to meters	108 cm = 1.08 m	$108 \div 10^2 = 1.08$
c.	2.49 meters to centimeters	2.49 m = 249 cm	$2.49 \times 10^2 = 249$
d.	50 centimeters to meters	50 cm = 0.5 m	$50 \div 10^2 = 0.5$
e.	6.3 meters to centimeters	6.3 m = 630 cm	$6.3 \times 10^2 = 630$
f.	7 centimeters to meters	7 cm = 0.07 m	$7 \div 10^2 = 0.07$

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

(b), (d), (f)

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

a.	4 meters to millimeters	4 m = 4000 mm	$4 \times 10^3 = 4000$
b.	1.7 meters to millimeters	1.7 m = 1700 mm	$1.7 \times 10^3 = 1700$
c.	1,050 millimeters to meters	1,050 mm = 1.05 m	$1{,}050 \div 10^3 = 1.05$
d.	65 millimeters to meters	65 mm = 0.065 m	$65 \div 10^3 = 0.065$
e.	4.92 meters to millimeters	4.92 m = 4920 mm	$4.92 \times 10^3 = 4920$
f.	3 millimeters to meters	3 mm = 0.003 m	$3 \div 10^3 = 0.003$

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

(a), (b), (e)

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 = 2,638 mm — $2.638 \times 10^3 = 2{,}638$

b. 7 cm = 0.07 m — $7 \div 10^2 = 0.07$

c. 39 mm = 0.039 m — $39 \div 10^3 = 0.039$

d. 0.08 m = 80 mm — $0.08 \times 10^3 = 80$

e. 0.005 m = 0.5 cm — $0.005 \times 10^2 = 0.5$

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.

1.49 m = 1490 mm $1.49 \times 10^3 = 1490$

Since 1 meter has 1,000 mm, we multiply 1.49 by 1,000 to get the number of millimeters. This is written as $1.49 \times 10^3 = 1490$.

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.

2 cm = 0.02 m

$2 \div 10^2 = 0.02$

Since 1 meter has 100 cm, to convert 2 cm we need to divide by 100. This is written as $2 \div 10^2 = 0.02$.

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.

77 mm = _____ m

$77 \div 10^3 = 0.077$

There are 1000 mm in 1 meter. To convert 77 mm we need to divide by 1000. This is written as $77 \div 10^3 = 0.077$.

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	9.235
d. Eight hundred and five thousandths	800.005
e. $\frac{8}{1000}$	0.008
f. $\frac{28}{1000}$	0.028
g. $7\frac{528}{1000}$	7.528
h. $300\frac{502}{1000}$	300.502

2. Express in words.

a. 0.008 = eight thousandths

b. 15.062 = fifteen and sixty-two thousandths

c. 607.409 six hundred seven and four hundred nine thousandths

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

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

OR

$27.346 = 2 \times 10 + 7 \times 1 + 3 \times 0.1 + 4 \times 0.01 + 6 \times 0.001$

b. 0.362

tens	ones	tenths	hundredths	thousandths
		3	6	2

$0.362 = 3 \times \frac{1}{10} + 6 \times \frac{1}{100} + 2 \times \frac{1}{1000}$

c. 49.564

tens	ones	tenths	hundredths	thousandths
4	9	5	6	4

$49.564 = 4 \times 10 + 9 \times 1 + 5 \times 0.1 + 6 \times 0.01 + 4 \times 0.001$

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

a. $3 \times 10 + 5 \times 1 + 2 \times \left(\frac{1}{10}\right) + 7 \times \left(\frac{1}{100}\right) + 6 \times \left(\frac{1}{1000}\right) = 35.276$

b. $9 \times 100 + 2 \times 10 + 3 \times 0.1 + 7 \times 0.001 = 920.307$

c. $5 \times 1000 + 4 \times 100 + 8 \times 1 + 6 \times \left(\frac{1}{100}\right) + 5 \times \left(\frac{1}{1000}\right) = 5408.065$

5. At the beginning of a lesson, a piece of chalk is 2.967 of an inch. At the end of lesson, it's 2.308 of an inch. Write the two amounts in expanded form using fractions.

a. At the beginning of the lesson:

$2.967 = 2 \times 1 + 9 \times \frac{1}{10} + 6 \times \frac{1}{100} + \frac{7}{1000}$

b. At the end of the lesson:

$2.308 = 2 \times 1 + 3 \times \frac{1}{10} + 8 \times \frac{1}{1000}$

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.

N: $412.638 = 4 \times 100 + 1 \times 10 + 2 \times 1 + 6 \times \frac{1}{10} + 3 \times \frac{1}{100} + 8 \times \frac{1}{1000}$

C: $412.638 = 4 \times 100 + 1 \times 10 + 2 \times 1 + 6 \times 0.1 + 3 \times 0.01 + 8 \times 0.001$

Name _____ Date _____

1. Use >, <, or = to compare the following.

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

2. Arrange the numbers in increasing order.

a. 8.08 8.081 8.09 8.008

8.008 8.08 8.081 8.09

b. 14.204 14.200 14.240 14.210

14.200 14.204 14.210 14.240

3. Arrange the numbers in decreasing order.

   a. 8.508 8.58 7.5 7.058

   8.58 8.508 7.5 7.058

   b. 439.216 439.126 439.612 439.261

   439.612 439.261 439.216 439.126

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

James: 0.17

Jennifer: 0.165

James's hand is bigger.

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.

M:	3	3	4	5
S:	3	3	5	
J:	3	3		

Salvador is farthest.

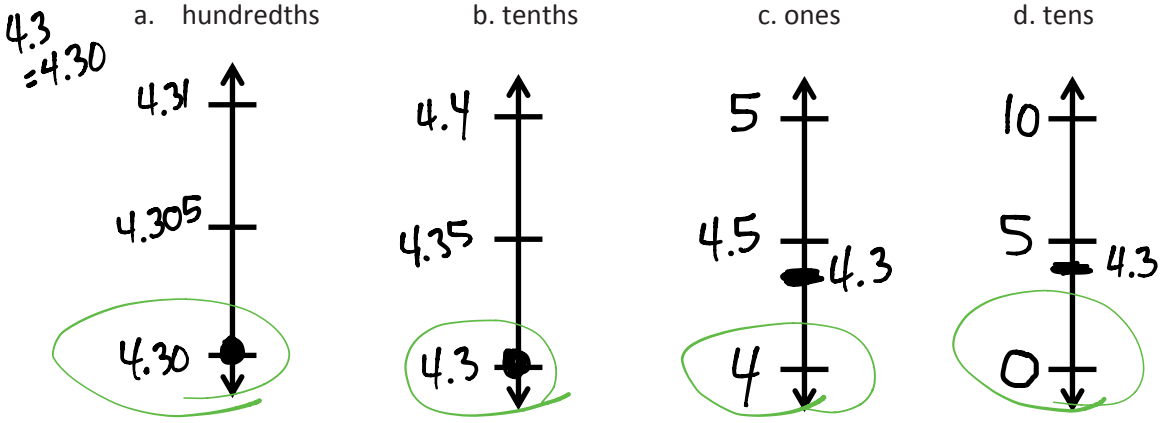
Jennifer is shortest.

Name _____ Date _____

Round to the given place value. Label the number lines to show your work. Circle the rounded number. Use a separate sheet to show your decompositions for each one.

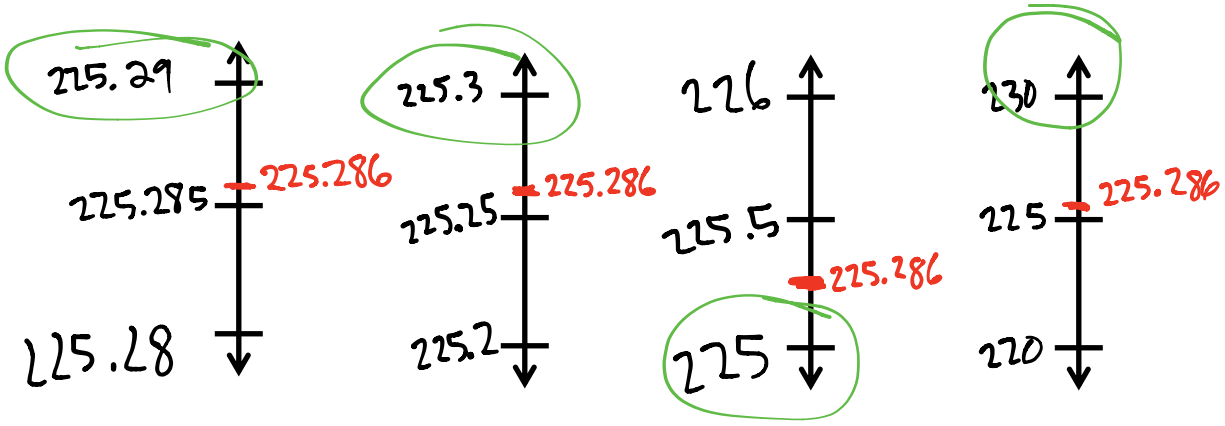
1. 4.3

a. hundredths b. tenths c. ones d. tens



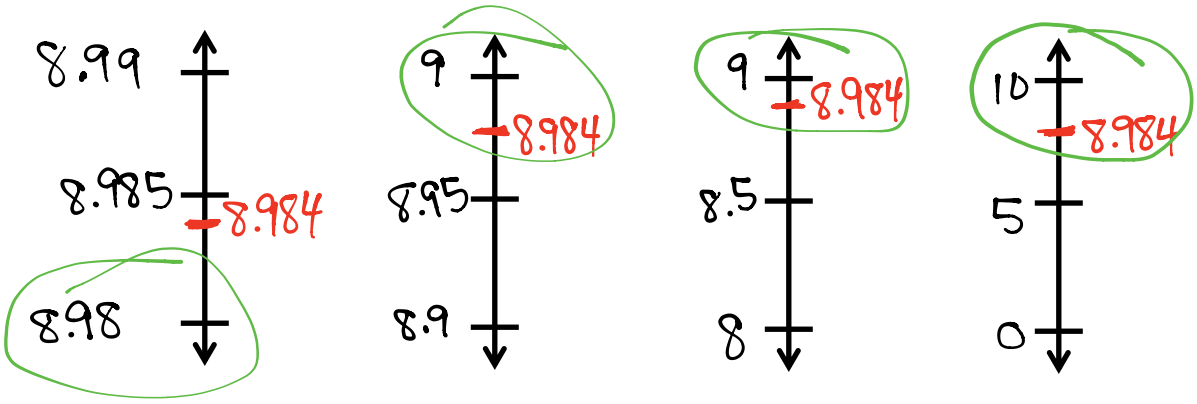
2. 225.286

a. hundredths b. tenths c. ones d. tens



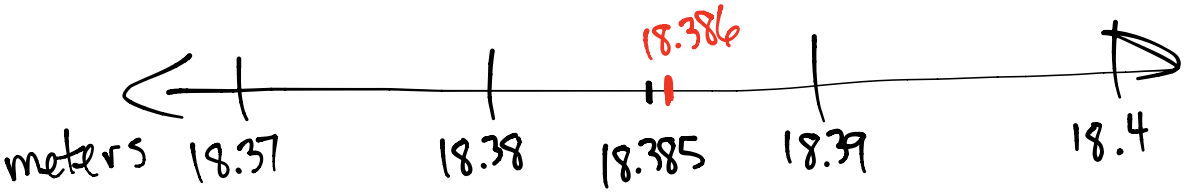
3. 8.984

a. hundredths b. tenths c. ones 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 to estimate the distance. Use a number line to show your work.



b. About how many centimeters is it from the pitcher's mound to home plate?

$18.386 \times 100 = 1838.6$ cm

$1838.6 \approx$ 1839 cm

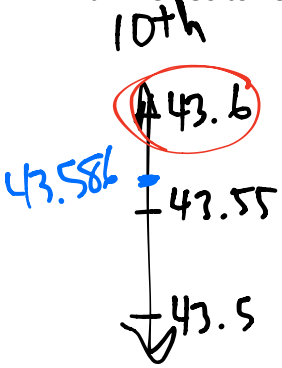
5. Jules reads that one pint is equivalent to 0.473 liters. He asks his teacher how many liters there are in a pint. His teacher responds that there are about 0.47 liters in a pint. He asks his parents, and they say there are about 0.5 liters in a pint. Jules says they are both correct. How can that be true? Explain your answer.

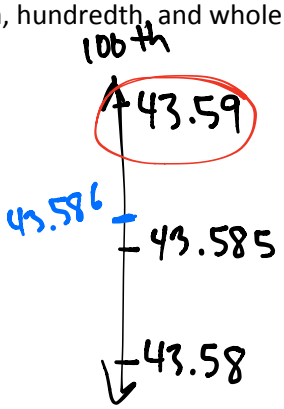
the teacher rounded to the nearest 100th, while parents rounded to 10th.

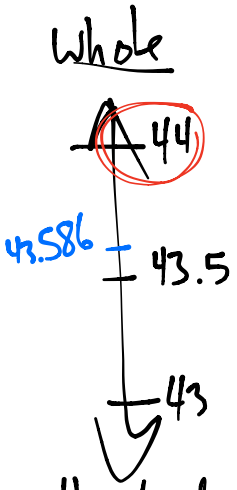
Name _____ Date _____

1. Round the quantity to the given place value. Draw number lines to explain your thinking. Circle the rounded value on the number line.

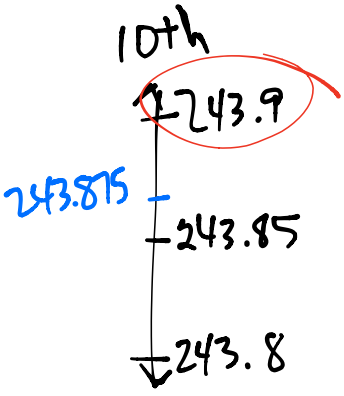
a. 43.586 to nearest tenth, hundredth, and whole number

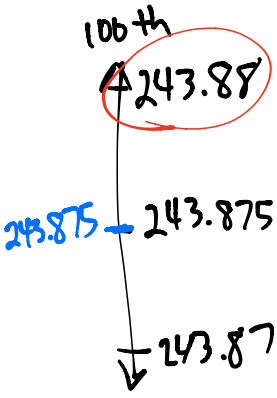


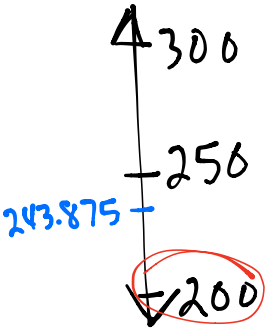




b. 243.875 to nearest tenth, hundredth, ten, and hundred





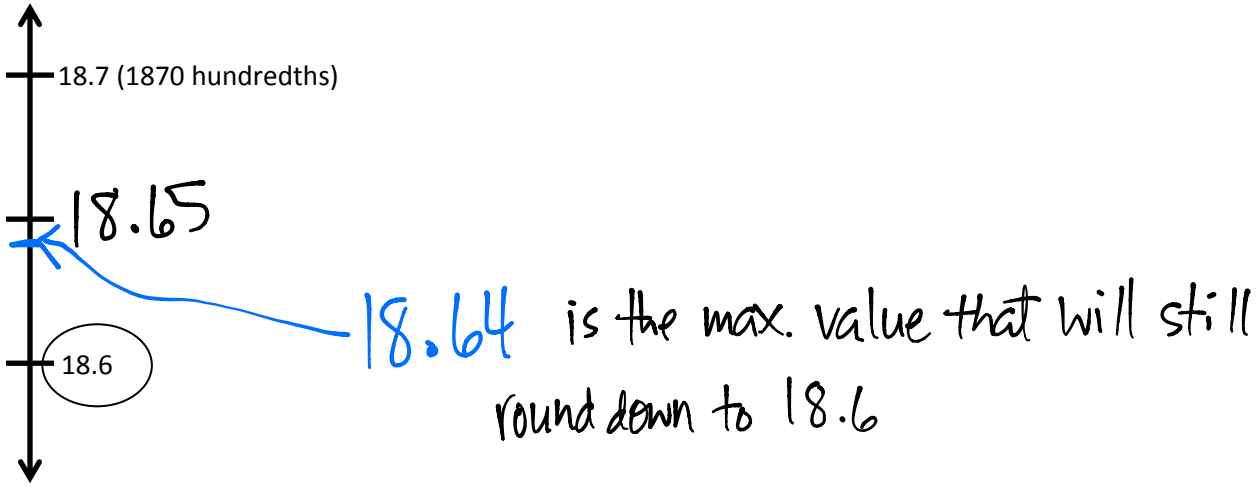


2. A trip from New York City to Seattle is 2,852.1 miles. A family wants to make the drive in 10 days, driving the same number of miles each day. About how many miles will they drive each day? Round you answer to the nearest tenth of a mile.

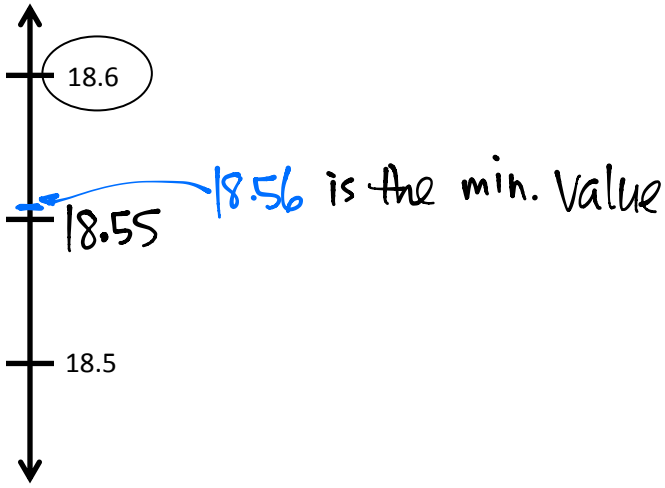
2852.1 ÷ 10 = 285.21 which rounds to 285 miles each day.

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 decimal? Use words and the number line to explain your reasoning.



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



Name _____ Date _____

1. Solve.

a. 3 tenths + 4 tenths = 7 tenths

b. 12 tenths + 9 tenths = 21 tenths = 2 one(s) 1 tenth(s)

c. 3 hundredths + 4 hundredths = 7 hundredths

d. 27 hundredths + 7 hundredths = 34 hundredths = 3 tenths 4 hundredths

e. 4 thousandth + 3 thousandths = 7 thousandths

f. 39 thousandths + 5 thousandths = 44 thousandths = 4 hundredths 4 thousandths

g. 5 tenths + 7 thousandths = 507 thousandths

h. 4 ones 4 tenths + 4 tenths = 48 tenths

i. 8 thousandths + 6 ones 8 thousandths = 6016 thousandths

2. Solve using the standard algorithm.

a. 0.4 + 0.7 = 1.1

$$\begin{array}{r} {}^{1}0.4 \\ +\ 0.7 \\ \hline 1.1 \end{array}$$

b. 2.04 + 0.07 = 2.11

$$\begin{array}{r} {}^{1}2.04 \\ +\ 0.07 \\ \hline 2.11 \end{array}$$

c. 6.4 + 3.7 = 10.1

$$\begin{array}{r} {}^{1}6.4 \\ +\ 3.7 \\ \hline 10.1 \end{array}$$

d. 56.04 + 3.07 = 59.11

$$\begin{array}{r} {}^{1}56.04 \\ +\ 3.07 \\ \hline 59.11 \end{array}$$

e. 72.564 + 5.137 = ~~77.701~~	f. 75.604 + 22.296 = ~~97.9~~
72.564 + 5.137 77.701	75.604 +22.296 97.900

3. Walkway Over the Hudson, a bridge that crosses the Hudson River in Poughkeepsie, is 2.063 kilometers. Anping Bridge, which was built in China 850 years ago, is 2.07 kilometers long.

   a. Which bridge is longer? How much longer? Show your thinking.

Anping is longer.

2.063 → +0.007
2.070

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

2.063
+ 2.063
4.126 km

4. For his parents' anniversary, Danny spends $5.87 on a photo. He also buys 3 balloons for $2.49 each and a box of strawberries for $4.50. How much money does he spend all together?

2.49
2.49
+ 2.49
7.47

5.87
7.47
+ 4.50
$17.84

Name _____ Date _____

1. Subtract. You may use a place value chart.

   a. 9 tenths – 3 tenths = 6 tenth

   b. 9 ones 2 thousandths – 3 ones = 6 ones 2 thousandths

   c. 4 hundreds 6 hundredths – 3 hundredths = 4 hundreds 3 hundredths

   d. 56 thousandths – 23 thousandths = 33 thousandths

      = 3 hundredths 3 thousandths

2. Solve using the standard algorithm.

a. 1.8 – 0.9 = _____ 0 1.8 (18) − 0.9 0.9	b. 41.84 – 0.9 = _____ 41.84 (0 18) − 0.90 40.94	c. 341.84 – 21.92 = _____ 341.84 (3 10 18) − 21.92 319.92
d. 5.182 – 0.09 = _____ 5.182 (0 18) − 0.090 5.092	e. 50.416 – 4.25 = _____ 50.416 (4 10 3 11) − 4.250 46.166	f. 741. – 3.91 = _____ 741.00 (3 10 9 10) − 3.91 737.09

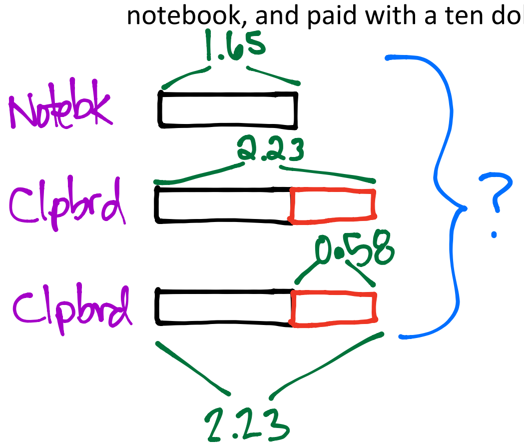
3. Solve.

a. 30 tens – 3 tens 3 tenths 300.0 − 30.3 = 269.7	b. 5 – 16 tenths 5.0 − 1.6 = 3.4	c. 24 tenths – 1 one 3 tenths 2.4 − 1.3 = 1.1
d. 6 ones 7 hundredths – 2.3 6.07 − 2.3 = 3.77	e. 8.246 – 5 hundredths 8.246 − 0.05 = 8.196	f. 5 ones 3 tenths – 0.53 5.30 − 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.

She is wrong because 8 and 5 have different units.

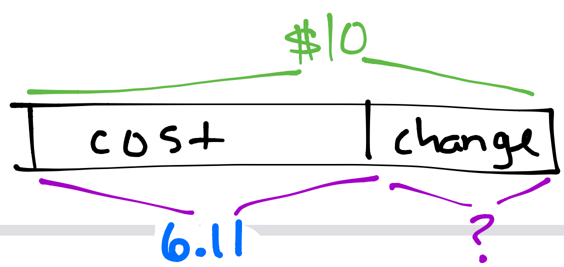
5. A clipboard costs \$2.23. It costs \$0.58 more than a notebook. Lisa buys two clipboards and one notebook, and paid with a ten dollar bill. Use a tape diagram with calculations to show her change.



2.23 − .58 = 1.65

2.23 + 2.23 + 1.65 = 6.11

10.00 − 6.11 = 3.89

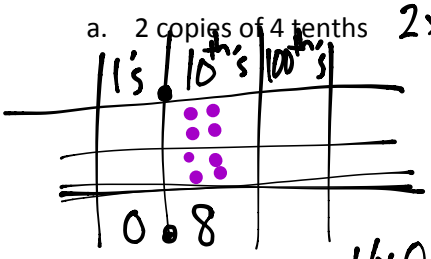


\$3.89

Name _____ Date _____

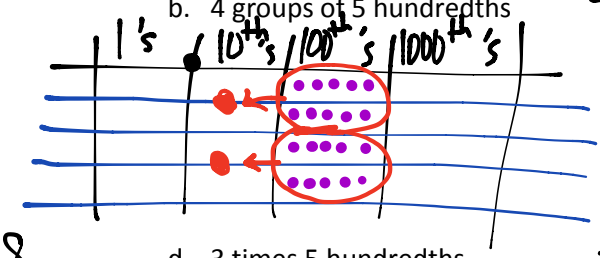
1. Solve by drawing disks on a place value chart. Write an equation and express the product in standard form.

a. 2 copies of 4 tenths 2×0.4

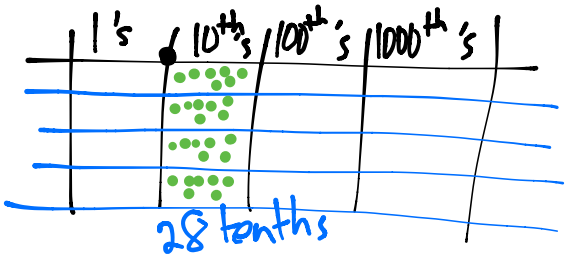


b. 4 groups of 5 hundredths

4×0.05 = 20 hundredths
= 2 tenths
= 0.2

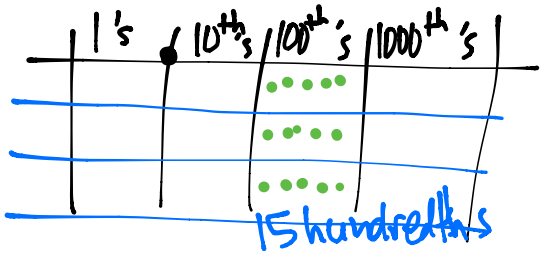


b. 4 times 7 tenths 4×0.7=2.8

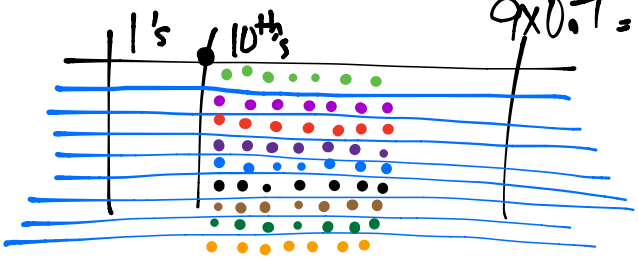


d. 3 times 5 hundredths

3×0.05 = 15 hundredths
= 1 tenth + 5 hundredths
=0.15

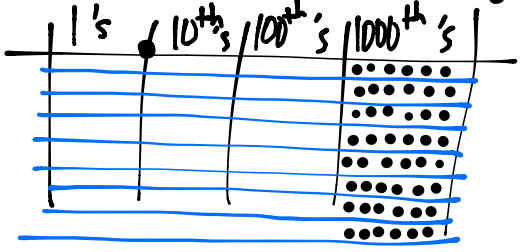


c. 9 times as much as 7 tenths 9×0.7=6.3



f. 6 thousandths times 8

8×0.006 = 48 thousandths
= 0.048



2. Draw a model similar to the one pictured below. Find the sum of the partial products to evaluate each expression.

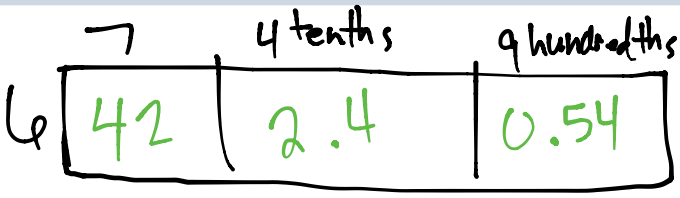
a. 4 × 6.79

	6 ones	+	**7 tenths**	+	**9 hundredths**
4	4 x 6 ones		4 x 7 tenths		4 x 9 hundredths

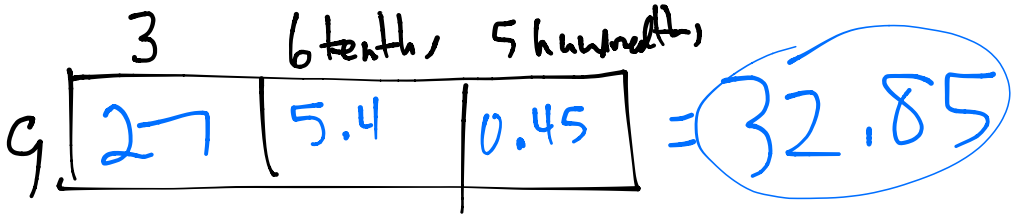
24 + 28 tenths + 36 hundredths = 27.16

24 + 2.8 + 0.36

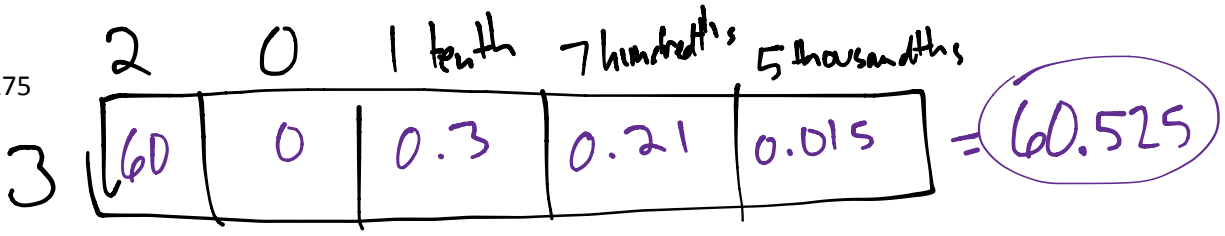
b. 6 x 7.49 hundredths



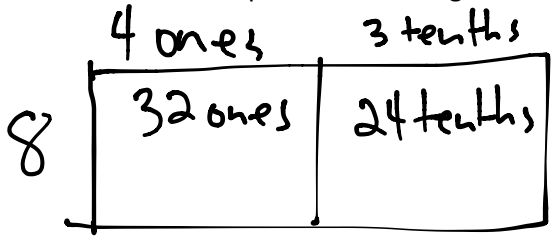
c. 9 copies of 3.65



d. 3 times 20.175



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



32 ones + 24 tenths

3 tens + 2 ones + 2 ones + 4 tenths

34.4

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 one bag of hamburger rolls, what will she pay in all for the groceries?

3 x 3.38 = 10.14

5 x 0.79 = 3.95

1 x 2.30 = 2.30

$16.39

Name _____ Date _____

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

a. 2.1 x 3 0.63 6.3 63 630

2 x 3 = 6

b. 4.27 x 6 2562 256.2 25.62 2.562

4 x 6 = 24

c. 7 x 6.053 4237.1 423.71 42.371 4.2371

7 x 6 = 42

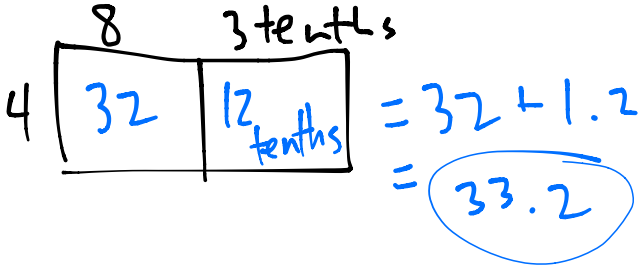
d. 9 x 4.82 4.338 43.38 433.8 4338

9 x 5 = 45

2. YiTing weighs 8.3 kg. Her older brother is 4 times as heavy as her. How much does her older brother's weight in kg?

4 x 8.3

$$\begin{array}{r} 8.3 \\ \times\ 4 \\ \hline 33.2 \end{array}$$



3. Tim is painting his storage shed. He buys 4 gallons of white paint and 3 gallons of blue paint. If 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?

$$\begin{array}{r} 15.72 \\ \times \quad 4 \\ \hline 62.88 \end{array} \qquad \begin{array}{r} 21.87 \\ \times \quad 3 \\ \hline 65.61 \end{array} \qquad \begin{array}{r} 62.88 \\ + \ 65.61 \\ \hline \$128.49 \end{array}$$

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

$$\begin{array}{r} {}^{2}\,{}^{2} \\ 6.33 \\ \times \quad 8 \\ \hline \$50.64 \end{array}$$

Name _____ Date _____

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

a. 3 groups of 5 tenths is 1.5 1.5 ÷ 3 = 0.5

b. 6 groups of 4 hundredths is 0.24 0.24 ÷ 6 = 0.04

c. 5 groups of 9 thousandths is 0.045 0.045 ÷ 5 = 0.009

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

a. 9.36 ÷ 3 = 9 ones ÷ 3 + 36 hundredths ÷ 3
= 3 ones + 12 hundredths
= 3.12

b. 36.012 ÷ 3 = 36 ones ÷ 3 + 12 thousandths ÷ 3
= 12 ones + 4 thousandths
= 12.004

c. 3.55 ÷ 5 = 35 tenths ÷ 5 + 5 hundredths ÷ 5
= 7 tenths + 1 hundredths
= 0.71

d. 3.545 ÷ 5 = 35 tenths ÷ 5 + 45 thousandths ÷ 5

= 7 tenths + 9 thousandths

= 0.709

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 = 3 2.1 ÷ 7 = 0.3

7 x 3 = 21 7 x 0.3 = 2.1

b. 48 ÷ 8 = 6 0.048 ÷ 8 = 0.006

8 x 6 = 48 8 x 0.006 = 0.048

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

a. 0.54 ÷ 6 = 9

NO, because 6 x 9 = 54, not 0.54

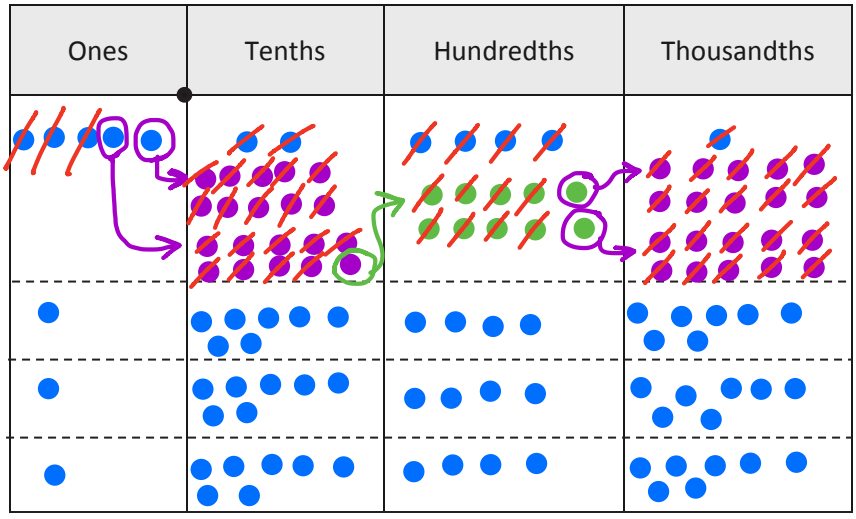
b. 5.4 ÷ 6 = 0.9

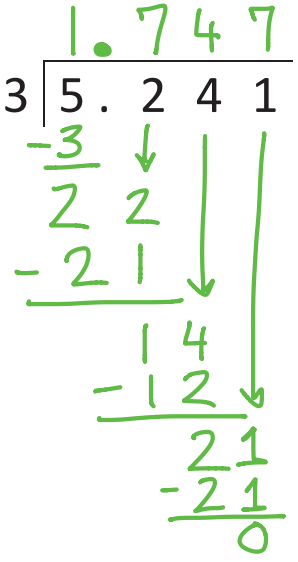
Yes, because 6 x 0.9 = 5.4

Name _____ Date _____

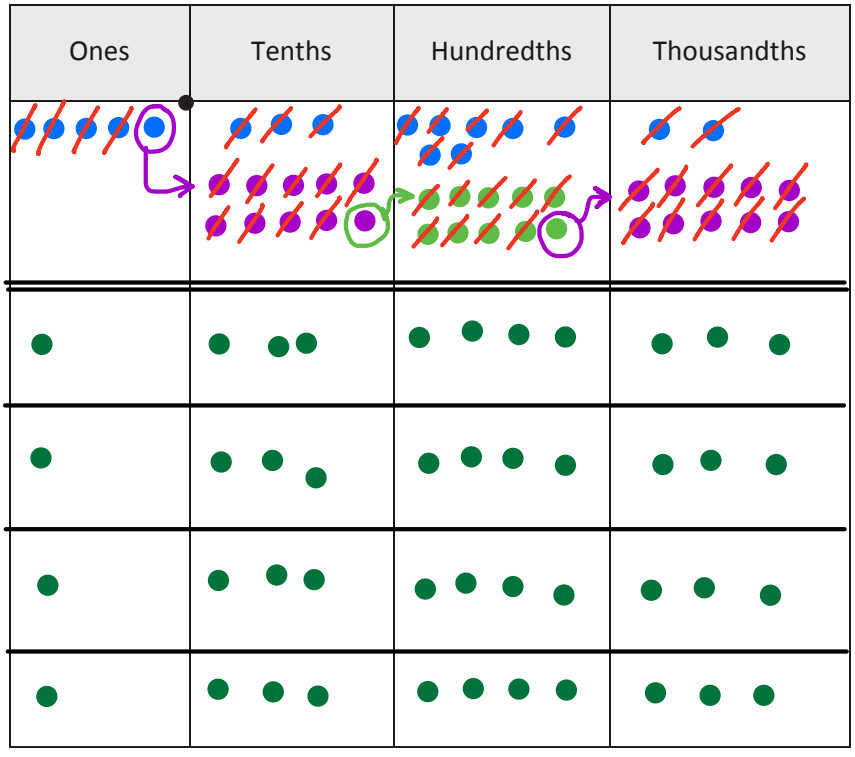
1. Draw place value disks on the place value chart to solve. Show each step using the standard algorithm.

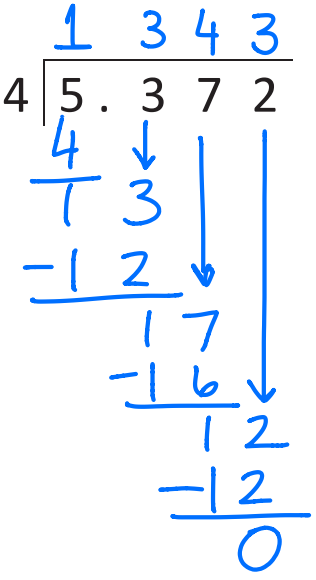
a. 5.241 ÷ 3 = _____





b. 5.372 ÷ 4 = _____

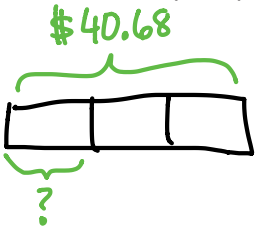




2. Solve using the standard algorithm.

a. 0.64 ÷ 4 = 0.16	b. 6.45 ÷ 5 = 1.29	c. 16.404 ÷ 6 = 2.734
.16 4 ⟌ 0.64 −4 24 −24 0	1.29 5 ⟌ 6.45 −5 14 −10 45 −45 0	2.734 6 ⟌ 16.404 −12 44 −42 20 −18 24 −24 0

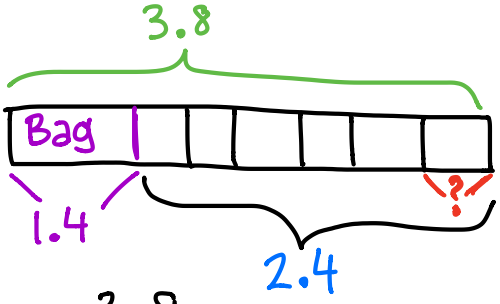
3. Mrs. Mayuko paid $40.68 for 3 kg of shrimp. What's the cost of 1 kilogram of shrimp?



13.56
3 ⟌ 40.68
−3
10
−9
16
−15
18
−18
0

1 kg of shrimp will cost $13.56.

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?



3.8
− 1.4
2.4

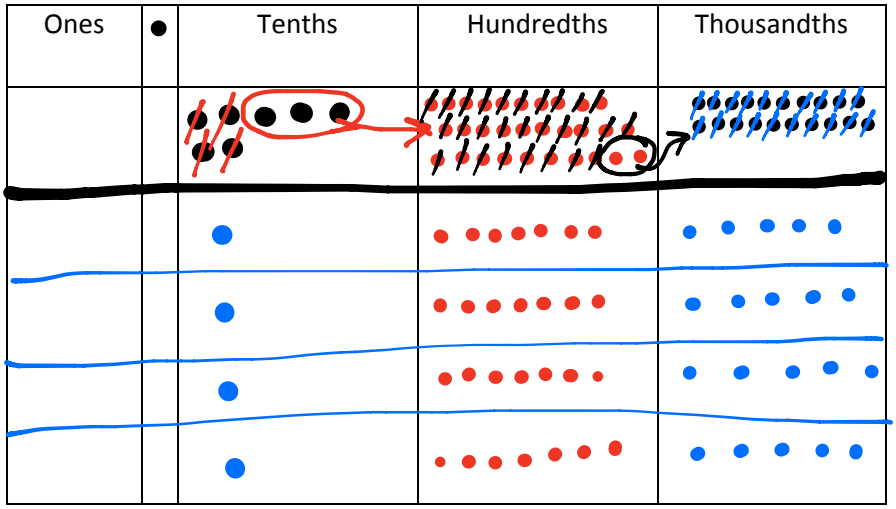
.4
6 ⟌ 2.4
−24
0

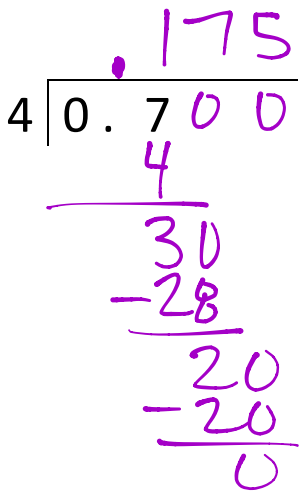
Each piece of butter weighs 0.4 pounds.

Name _____ Date _____

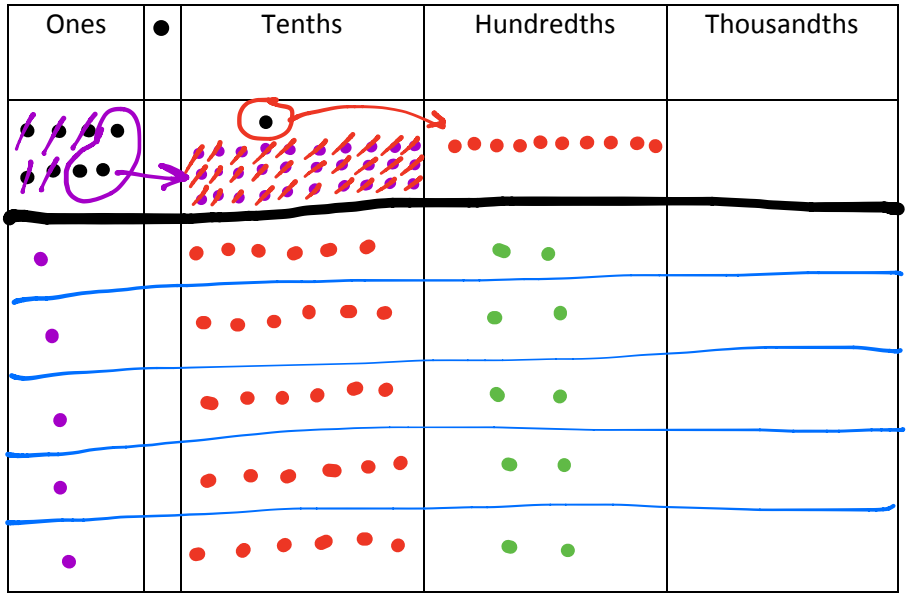
1. Draw number disks on the place value chart to solve, and show your steps using long division.

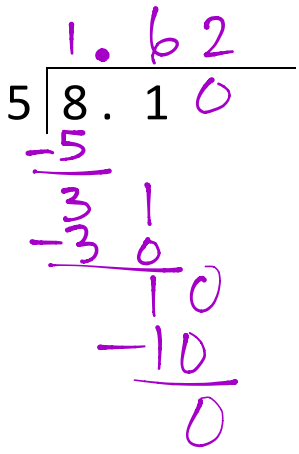
a. 0.7 ÷ 4 = _____





b. 8.1 ÷ 5 = _____





2. Solve using the standard algorithm.

a. $0.7 \div 2 =$ 0.35

$$2\overline{)0.70} = .35,\ 6,\ 10,\ 10,\ 0$$

b. $3.9 \div 6 =$ 0.65

$$6\overline{)3.90} = .65,\ -36,\ 30,\ -30,\ 0$$

c. $9 \div 4 =$ 2.25

$$4\overline{)9.00} = 2.25,\ -8,\ 10,\ -8,\ 20,\ -20,\ 0$$

d. $0.92 \div 2 =$ 0.46

$$2\overline{)0.92} = .46,\ -8,\ 12,\ -12,\ 0$$

e. $9.4 \div 4 =$ 2.35

$$4\overline{)9.40} = 2.35,\ -8,\ 14,\ -12,\ 20,\ -20,\ 0$$

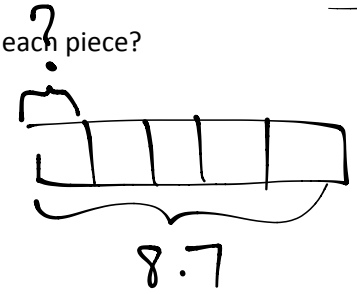
f. $91 \div 8 =$ 11.375

$$8\overline{)91.000} = 11.375,\ -8,\ 11,\ -8,\ 30,\ -24,\ 60,\ -56,\ 40,\ -40,\ 0$$

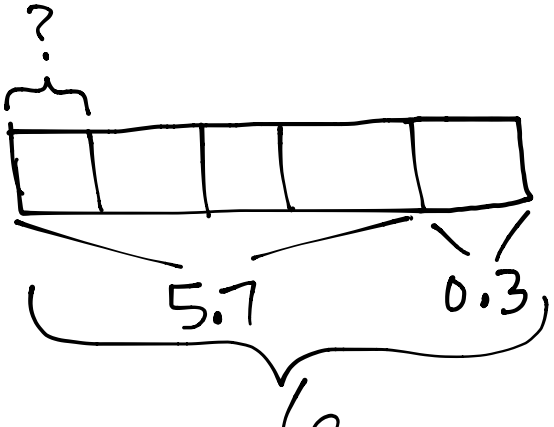
3. A rope 8.7 m long is cut into 5 equal pieces. How long is each piece?

$$5\overline{)8.70} = 1.74,\ -5,\ 37,\ -35,\ 20,\ -20,\ 0$$

1.74 m



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. What's the amount of apple juice in each bottle?



$$6.0 - 0.3 = 5.7$$

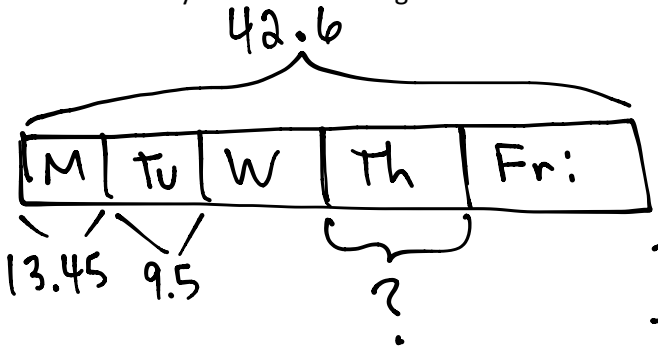
$$4\overline{)5.700} = 1.425,\ -4,\ 17,\ -16,\ 10,\ -8,\ 20,\ -20,\ 0$$

1.425 gal

Name _____ Date _____

Solve using tape diagrams.

1. A gardener installed 42.6 meters of fencing in a week. He installed 13.45 meters on Monday and 9.5 meters on Tuesday. He installed the rest of the fence in equal lengths on Wednesday through Friday. How many meters of fencing did he install on each of the last three days?



13.45 + 9.5 = 22.95

42.6 − 22.95 = 19.65

6.55 ÷ 3 = 19.65 (18, 16, 15, 15, 15, 0)

6.55 m

2. 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 school-aged children for 6 hours, how much money did she earn in all?

9.15 × 9 = 82.35

7.45 × 6 = 44.70

82.35 + 44.70 = 127.05

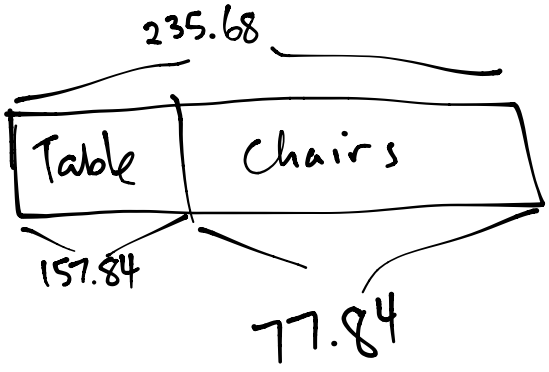
$127.05

   b. Jenny wants to earn $1300 by the end of the summer. How much more will ~~she need to earn to meet~~ her goal?

1300.00 − 127.05 = 1172.95

$1172.95

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

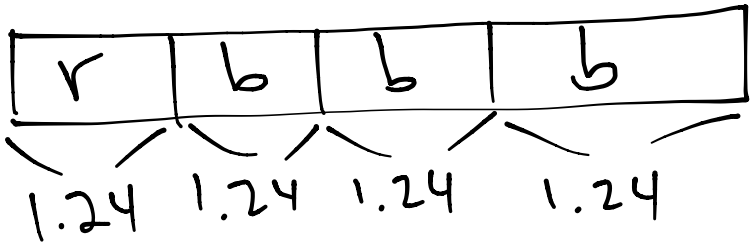


$$\begin{array}{r} {}^{1}{}^{2}{}^{1}{}^{4} \\ 235.68 \\ -157.84 \\ \hline 77.84 \end{array}$$

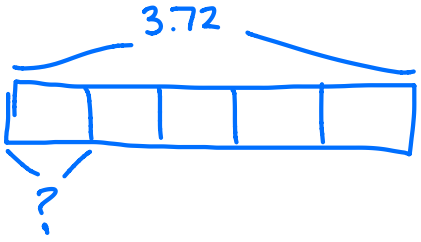
$$\begin{array}{r} 9.73 \\ 8\overline{)77.84} \\ -72 \\ \hline 58 \\ -56 \\ \hline 24 \\ -24 \\ \hline 0 \end{array}$$

9.73 lbs.

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 cup? Give you answer in liters.



$$\begin{array}{r} 1.24 \\ \times \quad 3 \\ \hline 3.72 \end{array}$$



$$\begin{array}{r} .744 \\ 5\overline{)3.720} \\ -35 \\ \hline 22 \\ -20 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

There is 0.744 L of blue in each cup.