Name _____   Period _____

Unit 5 Base 10 Week of 3/2/20

Learning Targets from 6th Grade Common Core State Standards:

Lesson 5 Decimal points in products
☐ I can use place value and fractions to reason about multiplication of decimals.

Lesson 6 Methods for Multiplying Decimals
☐ I know and can explain more than one way to multiply decimals using fractions and place value.
☐ I can use area diagrams to represent and reason about multiplication of decimals.

Lesson 7 Using Diagrams to Represent Multiplication
☐ I can use area diagrams and partial products to represent and find products of decimals.

Lesson 8 Calculating Products of Decimals
☐ I know how to use a product of whole numbers to find a product of decimals.
☐ I can describe and apply a method for multiplying decimals.

This Week's Vocabulary Words:

sum	decimal	bundle	regroup	power of ten
difference	place value	unbundle	decompose	area model
				diagram

Homework is due the following day.

Day	Class work—All in Spiral using iPad	Homework	Complete	Correct
Monday	Lesson 5 Decimal Points in Products pdf page 22	U5 L4 HW Problems All	/4	/12
Tuesday	Lesson 6 Methods for Multiplying Decimals pdf page 28	U5 L5 HW Problems 1, 2, 3, 5, 6, skip 4, 7 is the challenge	/4	/21
Wednesday	Lesson 7 Using Diagrams to Represent Multiplication pdf page 32	U5 L6 HW Problems 1, 2, 3, 4a, 4b, skip 4c and 4d, 5, 6, 7a, 7b skip 7c	/4	/14
Thursday	Lesson 7 continues	U5 L7 HW Problems All	/4	/15
Friday	Lesson 8 Calculating Products of Decimals	None		
		Total	/16	
		Quality	/4	
		Total	/20	

Homework Quality—Remember, if you don't know how to complete a problem you should read it again and write down the information you have, draw a picture, or write a question you have, please do not leave blank or write "?" or idk. You can also come in and get help before school☺!

☐ Work is **thorough** with **detailed** explanations (2 pts)
☐ Homework is corrected (with additions needed) in a different color pen/pencil (2 pts)

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Unit 5, Lesson 4: Adding and Subtracting Decimals with Many Non-Zero Digits

1. For each subtraction problem, circle the correct calculation.

a. 7.2 − 3.67

b. 16 − 1.4

a.

$$
\begin{array}{r}
7.2 \\
-3.67 \\
\hline
3.05
\end{array}
\qquad
\begin{array}{r}
0\;7.2 \\
-3.67 \\
\hline
3.05
\end{array}
\qquad
\begin{array}{r}
7.20 \\
-3.67 \\
\hline
3.53
\end{array}
$$

b.

$$
\begin{array}{r}
1\;6 \\
-\;1.4 \\
\hline
0.2
\end{array}
\qquad
\begin{array}{r}
1\;6.0 \\
-1.40 \\
\hline
0.20
\end{array}
\qquad
\begin{array}{r}
16.0 \\
-\;1.4 \\
\hline
14.6
\end{array}
$$

2. Explain how you could find the difference of 1 and 0.1978.

3. A bag of chocolates is labeled to contain 0.384 pound of chocolates. The actual weight of the chocolates is 0.3798 pound.

a. Are the chocolates heavier or lighter than the weight stated on the label? Explain how you know.

b. How much heavier or lighter are the chocolates than stated on the label? Show your reasoning.

4. Complete the calculations so that each shows the correct sum. On back

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a.

```
  1 . 0  3  6
+ [  ][  ][  ][  ]
  4 .0  0   0
```

b.

```
  0 . 7  3  8
+ [  ][  ][  ][  ]
  1 .0  0  0
```

c.

```
  0 . 5  1  3  7
+ [  ][  ][  ][  ]
  1 .0  0  0  0
```

/3

5. A shipping company is loading cube-shaped crates into a larger cube-shaped container. The smaller cubes have side lengths of $2\frac{1}{2}$ feet, and the larger shipping container has side lengths of 10 feet. How many crates will fit in the large shipping container? Explain your reasoning.

/1

(from Unit 4, Lesson 14)

6. For every 9 customers, the chef prepares 2 loaves of bread. Here is double number line showing varying numbers of customers and the loaves prepared.

number of customers
loaves of bread
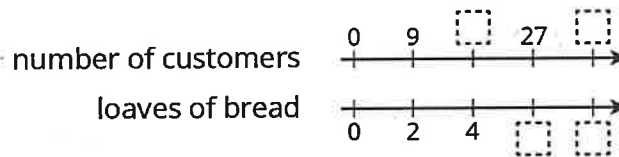
a. Complete the missing information.

b. The same information is shown on a table. Complete the missing information.

customers	loaves
9	2
	4
27	
	14
1	

c. Use either representation to answer these questions.

■ How many loaves are needed for 63 customers?

■ How many customers are there if the chef prepares 20 loaves?

■ How much of a loaf is prepared for each customer?

/3

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Unit 5, Lesson 5
Practice Problems

1. a. Find the product of each number and $\frac{1}{100}$.

    122.1   11.8   1350.1   1.704

    b. What happens to the decimal point of the original number when you multiply it by $\frac{1}{100}$? Why do you think that is? Explain your reasoning.

2. Which expression has the same value as $(0.06) \cdot (0.154)$? Select all that apply.

    A. $6 \cdot \frac{1}{100} \cdot 154 \cdot \frac{1}{1,000}$

    B. $6 \cdot 154 \cdot \frac{1}{100,000}$

    C. $6 \cdot (0.1) \cdot 154 \cdot (0.01)$

    D. $6 \cdot 154 \cdot (0.00001)$

    E. 0.00924

3. Calculate the value of each expression by writing the decimal factors as fractions, then writing their product as a decimal. Show your reasoning.

    a. $(0.01) \cdot (0.02)$

    b. $(0.3) \cdot (0.2)$

    c. $(1.2) \cdot 5$

    d. $(0.9) \cdot (1.1)$

    e. $(1.5) \cdot 2$

4. Write three numerical expressions that are equivalent to $(0.0004) \cdot (0.005)$. Skip

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5. Calculate each sum.

    a. $33.1 + 1.95$ b. $1.075 + 27.105$ c. $0.401 + 9.28$

/3

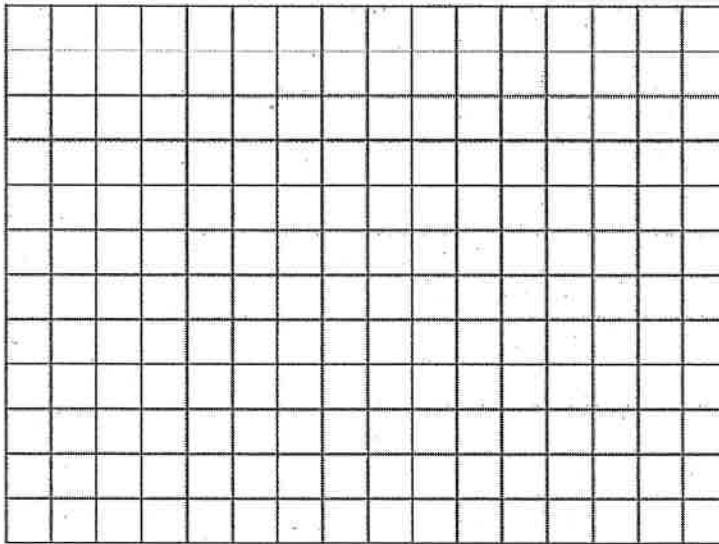6. Calculate each difference. Show your reasoning.

    a. $13.2 - 1.78$ b. $23.11 - 0.376$ c. $0.9 - 0.245$

/3

7. On the grid, draw a quadrilateral *that is not a rectangle* that has an area of 18 square units. Show how you know the area is 18 square units.

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Unit 5, Lesson 6
Practice Problems

1. Find each product. Show your reasoning.

    a. $(1.2) \cdot (0.11)$

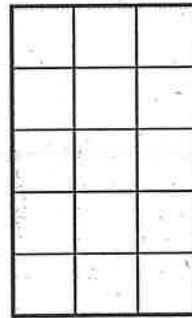   b. $(0.34) \cdot (0.02)$

    c. $120 \cdot (0.002)$

13

2. You can use a rectangle to represent $(0.3) \cdot (0.5)$.

    a. What must the side length of each square represent for the rectangle to correctly represent $(0.3) \cdot (0.5)$?

    b. What area is represented by each square?

    c. What is $(0.3) \cdot (0.5)$? Show your reasoning.

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3. One gallon of gasoline in Buffalo, New York costs $2.29. In Toronto, Canada, one liter of gasoline costs $0.91. There are 3.8 liters in one gallon.

    a. How much does one gallon of gas cost in Toronto? Round your answer to the nearest cent.

    b. Is the cost of gas greater in Buffalo or in Toronto? How much greater?

1/2

4. Calculate each sum or difference.

    a. $10.3 + 3.7$ b. $20.99 - 4.97$ skip c. $15.99 + 23.51$ skip d. $1.893 - 0.353$

1/2

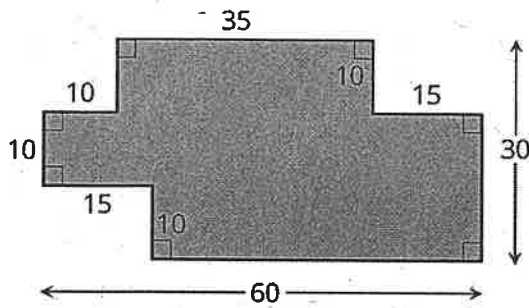NAME   DATE   PERIOD

5. Find the value of $\frac{49}{50} \div \frac{7}{6}$ using any method.

6. Find the area of the shaded region. All angles are right angles. Show your reasoning.

7. a. Priya finds $(1.05) \cdot (2.8)$ by calculating $105 \cdot 28$, then moving the decimal point three places to the left. Why does Priya's method make sense?

b. Use Priya's method to calculate $(1.05) \cdot (2.8)$, You can use the fact that $105 \cdot 28 = 2{,}940$.

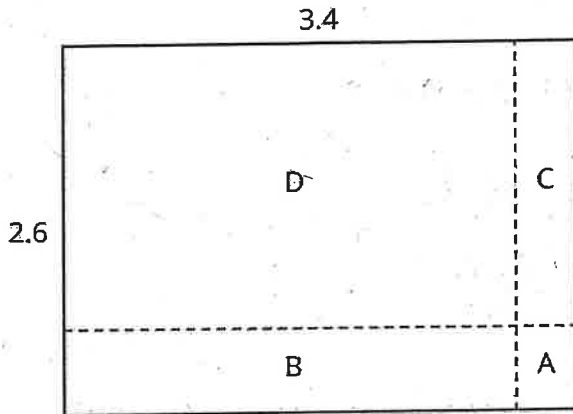c. Use Priya's method to calculate $(0.0015) \cdot (0.024)$. skip

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Unit 5, Lesson 7
Practice Problems

15

1. Here is a rectangle that has been partitioned into four smaller rectangles.

3.4

2.6

D   C

B   A
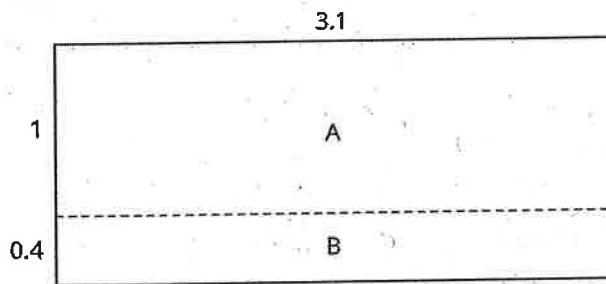
For each expression, choose a sub-rectangle whose area, in square units, matches the expression.

a. $3 \cdot (0.6)$

b. $(0.4) \cdot 2$

c. $(0.4) \cdot (0.6)$

d. $3 \cdot 2$

4

2. Here is an area diagram that represents $(3.1) \cdot (1.4)$.

3.1

1   A

0.4   B

a. Find the areas of sub-rectangles A and B.

b. What is the area of the 3.1 by 1.4 rectangle?

2

3. Draw an area diagram to find $(0.36) \cdot (0.53)$. Label and organize your work so that it can be followed by others.

1

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4. Find each product. Show your reasoning.

   a. $(2.5) \cdot (1.4)$ b. $(0.64) \cdot (0.81)$

$\frac{1}{2}$

5. Complete the calculations so that each shows the correct sum or difference.

$$\begin{array}{r} 2.3\square \\ + \square.64 \\ \hline 9.\square 5 \end{array}$$

$$\begin{array}{r} 2.3\square \\ + \square.64 \\ \hline 9.\square 2 \end{array}$$

$$\begin{array}{r} 4.3\square \\ + \square.15 \\ \hline 6.\square 2 \end{array}$$

$$\begin{array}{r} 1.5\square \\ + \square.38 \\ \hline 1.\square 4 \end{array}$$

4

6. Diego bought 12 mini muffins for $4.20.

   a. At this rate, how much would Diego pay for 4 mini muffins?

   b. How many mini muffins could Diego buy with $3.00? Explain or show your reasoning. If you get stuck, consider using the table.

number of mini muffins	price in dollars
12	4.20

$\frac{1}{2}$