

# Assignment Record Sheet

Math Core B

Full Name: \_\_\_\_\_

**Week: 11/4-11/8**

Unit Name: Decimal Ops

Period: 2

Date Assigned	Focus Question??	Homework (IP=in packet)	Meets Expectation (15 points)	Approaching Expectations (5 points)	Below Expectation (0 points)
<b>Monday Nov. 4</b>	<i>How can you determine whether fact-family relationships are true for decimal addition and subtraction?</i>	<b>WU:</b> None <b>CW:</b> Check Up 2 Quiz Review <b>HW:</b> Study for Quiz	<b>WU:</b> <b>CW:</b> <b>HW:</b>		
<b>Tuesday Nov. 5</b>	<i>How can you determine whether fact-family relationships are true for decimal addition and subtraction?</i>	<b>WU:</b> None <b>CW:</b> Check Up 2 Quiz <b>HW:</b> None	<b>WU:</b> <b>CW:</b> <b>HW:</b>		
<b>Wed. Nov. 6</b>	<i>How can you determine whether fact-family relationships are true for decimal addition and subtraction?</i>	<b>WU:</b> None <b>CW:</b> Partner Quiz & Unit Test Corrections <b>HW:</b> None	<b>WU:</b> <b>CW:</b> <b>HW:</b>		
<b>Thursday Nov. 7</b>	<i>What algorithm can be used to find any decimal product?</i>	<b>WU:</b> Multiplication Algorithms (IP) <b>CW:</b> Long Multiplication (IP) <b>HW:</b> ACE #23 (IP)	<b>WU:</b> <b>CW:</b> <b>HW:</b>		
<b>Friday Nov. 8</b>	<i>What algorithm can be used to find any decimal product?</i>	<b>WU:</b> 5 Minute Frenzy (IP) <b>CW:</b> Prob. 3.2 A – B p.47 <b>HW:</b> None <b>Turn in your packet</b>	<b>WU:</b> <b>CW:</b> <b>HW:</b>		

**Total Homework Score for the Week: \_\_\_\_\_/75**

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**Daily Materials Score \_\_\_\_\_/25**

## Check Up 2 Review for use after Investigation 2

1. For each problem, find the exact sum or difference.

a.  $0.50 + 1.2$

b.  $4.4 - 1.31$

2. For each pair of problems, which computation gives the larger answer?  
Show your work.

a.  $1.809 + 18.09$

or

$7.05 + 11.918$

b.  $27.01 - 22.503$

or

$5.021 - 0.514$

Name .....

Date

11/4/19

Class

P. 2

Decimal Ops

## Check Up 2 Review (continued)

3. Write a complete fact family for each problem.

a.  $12.4 - 3.2 = 9.2$

b.  $3.2 \times 4.1 = 13.12$

4. For each problem, use a colored pencil to put decimal points in the correct places to get the sum or difference. Explain your reasoning.

a.  $76 + 341 = 4.17$

b.  $3207 + 19 = 33.97$

c.  $4 - 11 = 3.89$

d.  $374 - 385 = 33.55$

**Problem 3.2****Warm Up Exercise Multiplication Algorithms**

The students agreed that, to multiply decimals such as  $6.5 \times 1.43$ , the steps are:

- (1) Ignore the decimal points and multiply the whole numbers.

$$65 \times 143 = 9295$$

**Estimation Strategy**

- (2) Estimate the decimal product.

$$6 \times 1.5 = 9$$

- (3) Use the estimate to place the decimal point in the answer.

$$6.5 \times 1.43 = 9.295$$



- (1) Ignore the decimal points and multiply the whole numbers.

$$65 \times 143 = 9295$$

**Count-the-Decimal-Places Strategy**

- (2) Examine the number of decimal places in the question. In the expression  $6.5 \times 1.43$ , the first factor has one decimal place, *5 tenths*, and the second factor has two decimal places, *43 hundredths*.

- (3) Add the number of decimal places in the factors, and make the product have that same number of decimal places. In the example, this means the product should have 3 decimal places, *295 thousandths*.

$$6.5 \times 1.43 = 9.295$$

- How does an estimate help students choose 9.295 and not 92.95?
- Why do three decimal places make sense for the answer, when the factors have only one and two places?
- Which of these algorithms makes sense to you? Explain.

# Problem 3.2

## Long Multiplication

You might have learned a way to organize the steps of whole-number multiplication in a vertical form.

For example, to calculate  $54 \times 23$ , you might record the work this way:

54	⋮	54
<u>×23</u>	OR	<u>×23</u>
12	⋮	
150		162 (which is $54 \times 3$ )
80		
<u>1,000</u>		<u>1,080</u> (which is $54 \times 20$ )
1,242		1,242

- How does this multiplication help you find the product  $5.4 \times 2.3$ ?

When Ethan tried to use a vertical form to record his work on the product  $54 \times 23$ , he wrote:

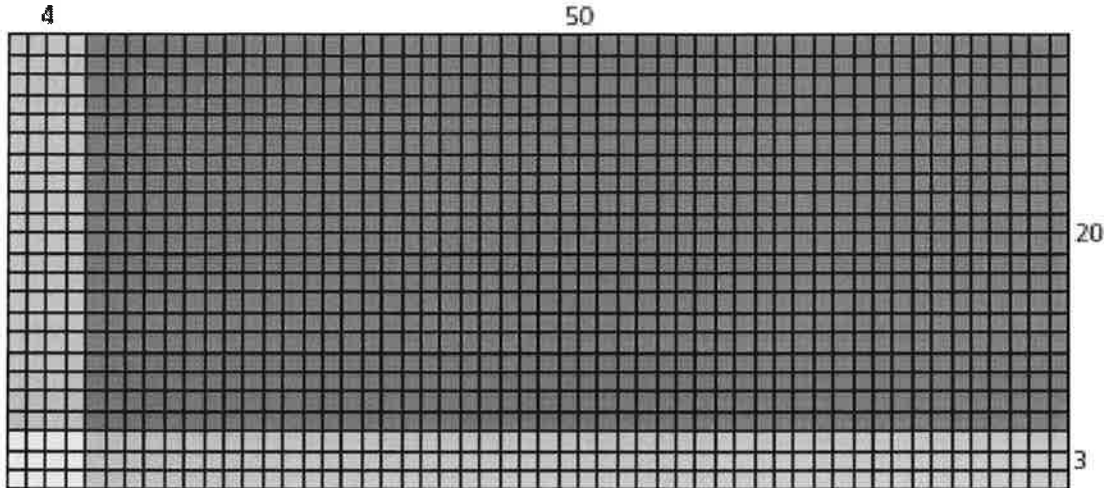
$$\begin{array}{r}
 54 \\
 \times 23 \\
 \hline
 162 \\
 108 \\
 \hline
 270
 \end{array}$$

- The answer is not correct. What did Ethan do wrong?

# Problem 3.2

## Long Multiplication

- Does the following diagram help you identify Ethan's error?



Ethan's sister says he could have used the Distributive Property to do his computation. She writes:

$$54 \times 23 = 54 \times (20 + 3) = \underline{\quad} + \underline{\quad} = \underline{\quad}.$$

- Complete the work above. Can this help Ethan see where he made a mistake?
- How does Ethan's sister's suggestion relate to the diagram above?
- How does the product  $54 \times 23$  help you find the product  $5.4 \times 2.3$ ?

# Labsheet 3ACE

## Exercise 23

24. Ten-year-old Chi learned a lot of math from his older brother, Shing. One day, Shing told him that **when you multiply a number by 10, “you just add a zero.”**

- a. With Shing’s idea in his mind, Chi says, “To find  $10 \times 20$  I just add a zero. So,  $20 + 0 = 20$ .” How would you correct him?

**Hint:** What should be the answer to  $10 \times 20$ ?

**Hint:** How would you change the shortcut Shing told Chi to make it clearer?

- b. After Chi realizes that “adding zero” actually means “putting an extra zero at the end,” he says, “ $10 \times 0.02$  equals 0.020 by putting the extra zero at the end.”

Is he right this time? How would you rephrase “putting an extra zero at the end” in case the other number is a decimal number? Explain why your suggestion works.

**Hint:** What would the shortcut be if you multiplied 10 by a decimal?

- c. How can you find the result of multiplying by 100; 1,000; or 10,000 using a similar strategy?

**Hint:** What would the shortcut be if you multiplied a number by:  
 100?  
 1,000?  
 10,000?

## Multiplication Five Minute Frenzy (B)

Try to complete the chart in less than five minutes and score 98 out of 100 or better. Write the product of the column and row numbers in each space.

x	3	9	11	1	4	6	12	7	10	2
9										
1										
12										
8										
7										
10										
4										
3										
6										
11										