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

UNIT 1 LESSON 2

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| AIM: | SWBAT multiply decimals. |

**THINK ABOUT IT!**

1) Use <, >, or = to compare each expression below

* + 1. 1 x 1.2 \_\_\_\_\_\_ 1.2
		2. 3 x 1.2 \_\_\_\_\_\_ 1.2
		3. 1 x 2.5 \_\_\_\_\_\_ 2.5
		4. 1.3 x 2.5 \_\_\_\_\_\_ 2.5
			- Which comparisons use the same inequality symbol? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
			- Explain what you notice about the comparisons with the same inequality symbol.

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**Test the Conjecture**

*Test the Conjecture #1)*

Find the product of 3.4 and 9.24

*Test the Conjecture #2)*

Edwin wants to find the area of a rectangle with the dimensions 22.12’ and 9.5’. Will the total area of the rectangle be more than 22.12’ or less than 22.12’? How do you know?

Conjecture

|  |
| --- |
| When multiplying a number by a factor that is greater than 1, the product will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the number. |

**PARTNER PRACTICE**

* CFS for top quality work
	+ Problem is annotated with margin notes to provide additional meaning
	+ All calculations are shown
	+ Check is performed
	+ Work is organized and neat

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| *Bachelor Level* |

1. What is the product of 1.2 and 3.4?

a) 1.34

b) 4.08

c) 13.4

d) 40.8

1. What is 5.026 x 3.1?
2. Will the product of 4.56 and 94.2 be greater than or less than 94.2? Without doing any calculations, explain how you know.

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| *Master Level* |

1. Linda calculated the product of 34.62 and 12.8 and got 4.43136. Explain how you know whether or not Linda’s answer is reasonable using two different methods – estimation and magnitude of the product relative to one of the factors. Then, calculate the actual product.

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**Check for Understanding:**

Which expression below will result in a product greater than 3.4?

1. 1.0 x 3.4
2. 3.4 x 0.56
3. 1.8 x 3.4
4. $\frac{1}{1}$ x 3.4

**INDEPENDENT PRACTICE**

* CFS for top quality work
	+ Problem is annotated with margin notes to provide additional meaning
	+ All calculations are shown
	+ Check is performed
	+ Work is organized and neat

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| *Bachelor Level* |

1. Select true or false for each statement below

|  |  |  |
| --- | --- | --- |
|  | **True** | **False** |
| The product of 23 and 3.324 is greater than 23 |  |  |
| The product of 2.4 and 8.43 is 2.4 |  |  |
| The product of 5.3 and 26.59 is greater than 26.59 |  |  |

For the statements that are true, find the actual products.

***Show your work.***

1. Would you expect the product of 43.5 and 1.0001 to be greater than, less than, or equal to 43.5? Why?

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| *Master Level* |

1. Elron evaluated the expression 43.2 x 13.4. Circle all the statements below that are true.
	1. The product is greater than both 43.2 and 13.4
	2. The product is less than 43.2 but greater than 13.4
	3. The product is greater than 13.4
	4. The product is greater than 43.2 but less than 13.4
2. One of Ms. Jospeh’s students answered the following problem on her homework.

17.06 x 25.1 = 4.28206

Without doing any calculations, which statement below would accurately explains why this students’ answer cannot be accurate?

a. If you multiply a number by a factor greater than 1, the product will be less than that number.

b. If you multiply a number by a factor greater than 1, the product will be less than that number.

c. When you multiply decimals, the number of decimal places in the product always has to be the same as the number of decimal places in one of the factors

d. This student is actually correct- there is no mistake.

1. Evaluate the expression.

(4.2 + 2.2 x 5) – 8.2 x 1.4

1. Xavier earns $11.50 per hour working at the nearby grocery store. Last week, Xavier worked for 13 $\frac{1}{2}$ hours. How much money did Xavier earn last week? Round your answer to the nearest penny.

***Show you work.***

1. Part A: Choose one value for *b* that would make the inequality below **true**:

24.5 x *b* > 24.5

*b* = \_\_\_\_\_\_

Part B: Choose one value for *b* that would make the inequality below **false**:

24.5 x *b* > 24.5

*b* = \_\_\_\_\_\_

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| *PhD Level* |

1. Gunnar’s car gets 22.4 miles per gallon, and his gas tank can hold 17.82 gallons of gas.
	1. How many miles can Gunnar travel if he uses all of the gas in the gas tank?

***Show your work.***

* 1. Gunnar’s car is close to empty and only has 0.98 gallon of gas left. He stops at a gas station that charges $2.05 per gallon of gas. How much does it cost for Gunnar to refill his tank? Round your answer to the nearest penny.

***Show your work.***

1. A local grocery store charges customers $1.09 per ounce for Gouda cheese. A local catering company wants to buy 4 $\frac{1}{2}$ pounds of cheese. How much will the store charge the company for the cheese? 1 pound = 16 ounces

***Show your work.***

* CFS for top quality work
	+ Problem is annotated with margin notes to provide additional meaning
	+ All calculations are shown
	+ Check is performed
	+ Work is organized and neat

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. Calculate the product: 4.52 x 12.5. Is the product greater than, less than, or equal to 4.52? Explain why it makes sense.

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1. Elissa went to the corner store and bought 7 bags of chips that each cost $1.20. The cashier told her that the total cost was $0.84. Does it make sense that the total cost is less than $1.20? Explain.

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