

Name _____

Date _____

1. Fill in the chart.

Words	Expression	The Value of the Expression
a. 50 times the sum of 64 and 36		
b. Divide the difference between 1,200 and 700 by 5		
c. The sum of 3 fifteens and 17 fifteens		
d. 15 times the sum of 14 and 6		
e.	$10 \times (250 + 45)$	
f.	$(560 + 440) \times 14$	

2. Compare the two expressions using $<$, $>$, or $=$. For each, explain how you can determine the answer without calculating.

a. 100×8



$25 \times (4 \times 9)$

b. 48×12



50 twelves – 3 twelves

c. 24×36



18 twenty-fours, doubled

3. Solve. Use words, numbers, or pictures to explain how your answers to Parts (a) and (b) are related.

a. $25 \times 30 =$ _____

b. $2.5 \times 30 =$ _____ tenths $\times 30 =$ _____

4. Multiply using the standard algorithm. Show your work below each problem. Write the product in the blank.

a. $514 \times 33 =$ _____

b. $546 \times 405 =$ _____

5. For a field trip, the school bought 47 sandwiches for \$4.60 each and 39 bags of chips for \$1.25 each. How much did the school spend in all?

6. Jeanne makes hair bows to sell at the craft fair. Each bow requires 1.5 yards of ribbon.
- a. At the fabric store, ribbon is sold by the foot. If Jeanne wants to make 84 bows, how many feet of ribbon must she buy? Show all your work.
- b. If the ribbon costs 10¢ per foot, what is the total cost of the ribbon in dollars? Explain your reasoning, including how you decided where to place the decimal.
- c. A manufacturer is making 1,000 times as many bows as Jeanne to sell in stores nationwide. Write an expression using exponents to show how many yards of ribbon the manufacturer will need. Do not calculate the total.

Mid-Module Assessment Task
Standards Addressed

Topics A–D

Write and interpret numerical expressions.

- 5.OA.1** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
- 5.OA.2** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.*

Understand the place value system.

- 5.NBT.1** Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.
- 5.NBT.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

- 5.NBT.5** Fluently multiply multi-digit whole numbers using the standard algorithm.
- 5.NBT.7** Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Convert like measurement units within a given measurement system.

- 5.MD.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Evaluating Student Learning Outcomes

A Progression Toward Mastery is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left (Step 1) to right (Step 4). The learning goal for each student is to achieve Step 4 mastery. These steps are meant to help teachers and students identify and celebrate what the student CAN do now and, what they need to work on next.

A Progression Toward Mastery

Assessment Task Item	STEP 1 Little evidence of reasoning without a correct answer. (1 Point)	STEP 2 Evidence of some reasoning without a correct answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 5.OA.1 5.OA.2	The student is able to answer one to three items correctly.	The student is able to answer four to six items correctly.	The student is able to answer eight to ten items correctly.	The student is able to answer all 12 items correctly.
2 5.OA.2	The student is unable to compare the expressions.	The student is able to correctly compare at least two pairs of expressions, but is unable to explain reasoning.	The student is able to correctly compare at least two pairs of expressions, and is able to explain reasoning on some parts of the task.	The student correctly compares all pairs of expressions, and is able to explain reasoning for all parts of the task.
3 5.NBT.1 5.NBT.2 5.NBT.7	The student is unable to correctly multiply either Part (a) or (b) and makes no attempt to explain the relationship between products.	The student is able to multiply either Part (a) or (b) correctly, but makes no attempt to explain the relationship between the products.	The student is able to correctly multiply both Parts (a) and (b), and provides some explanation of the relationship between the products.	The student correctly multiplies both parts of the task, and provides a complete explanation of the relationship between the products using words, numbers or pictures. a. 750 b. 75
4 5.NBT.5	The student does not use the standard algorithm or any strategy to multiply either Part (a) or (b).	The student does not use the standard algorithm, but uses another strategy to multiply Part (a) and/or Part (b).	The student uses the standard algorithm to multiply but makes errors in the partial products or the final product.	The student uses the standard algorithm to correctly multiply both Parts (a) and (b). a. 16,962 b. 221,130
5 5.NBT.5 5.NBT.7	The student uses incorrect reasoning and neither multiplies nor adds.	The student uses partially correct reasoning (multiplies but does not add, or adds but does not multiply), and makes calculation errors.	The student uses correct reasoning, but makes calculation errors.	The student uses correct reasoning and also calculates the total correctly as \$264.95.



A Progression Toward Mastery

6 5.OA.1 5.OA.2 5.NBT.1 5.NBT.2 5.NBT.5 5.NBT.7 5.MD.1	The student uses incorrect reasoning in most parts of the task and is unable to correctly convert, calculate, and/or write an accurate expression.	The student uses some correct reasoning, and is able to answer one part of the task.	The student uses correct reasoning, but makes calculation errors on part of the task or writes an incorrect expression.	The student uses correct reasoning, correctly calculates all parts of the task, and writes a correct expression. a. 378 ft b. \$37.80 c. $84 \times 1.5 \times 10^3$ or $84 \times 10^3 \times 1.5$
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Name Charlie

Date _____

1. Fill in the chart.

Words	Expression	The Value of the Expression
a. 50 times the sum of 64 and 36	$50 \times (64 + 36)$	5,000
b. Divide the difference between 1,200 and 700 by 5	$(1,200 - 700) \div 5$	100
c. The sum of 3 fifteens and 17 fifteens	$(3 \times 15) + (17 \times 15)$	300
d. 15 times the sum of 14 and 6	$15 \times (14 + 6)$	300
e. 10 times the sum of 250 and 45	$10 \times (250 + 45)$	2,950
f. 14 times the sum of 560 and 440	$(560 + 440) \times 14$	14,000

2. Compare the two expressions using
- $<$
- ,
- $>$
- , or
- $=$
- . For each, explain how you can determine the answer without calculating.

a. 100×8

The product here is 800.



$25 \times (4 \times 9)$

The product of this part is 100, so 100×9 is equal to 900.

b. 48×12

This is 48 twelves.



50 twelves - 3 twelves

This is 47 twelves

The other side is 1 more group of twelve.

c. 24×36



18 twenty-fours, doubled

Double 18 is 36, so it's 36 twenty-fours on both sides.

3. Solve. Use words, numbers or pictures to explain how your answers to parts (a) and (b) are related.

a. $25 \times 30 = \underline{750}$

b. $2.5 \times 30 = \underline{25}$ tenths $\times 30 = \underline{750}$ tenths $= 75.0$

The digits are exactly the same. But the units in (b) are smaller so the answer is smaller. Ones are 10 times as large as tenths so the answer to (a) is ten times larger than (b)

4. Multiply using the standard algorithm. Show your work below each problem. Write the product in the blank.

a. $514 \times 33 = \underline{16,962}$

$$\begin{array}{r} 514 \\ \times 33 \\ \hline 1542 \\ + 15420 \\ \hline 16,962 \end{array}$$

b. $546 \times 405 = \underline{221,130}$

$$\begin{array}{r} 546 \\ \times 405 \\ \hline 2730 \\ + 218400 \\ \hline 221,130 \end{array}$$

5. For a field trip, the school bought 47 sandwiches for \$4.60 each and 39 bags of chips for \$1.25 each. How much did the school spend in all?

$$\begin{array}{r} 460 \text{ cents} \\ \times 47 \\ \hline 3220 \\ + 18400 \\ \hline 21,620 \text{ cents} \\ \$216.20 \end{array}$$

$$\begin{array}{r} 125 \text{ cents} \\ \times 39 \\ \hline 1125 \\ + 3750 \\ \hline 4875 \text{ cents} \\ \$48.75 \end{array}$$

$$\begin{array}{r} 216.20 \\ + 48.75 \\ \hline \$264.95 \end{array}$$

The school spent
\$264.95 in all.

6. Jeanne makes hair bows to sell at the craft fair. Each bow requires 1.5 yards of ribbon.

- a. At the fabric store, ribbon is sold by the foot. If Jeanne wants to make 84 bows, how many feet of ribbon must she buy? Show all your work.

$$\begin{aligned} 1.5 \text{ yd} &= 1.5 \times (1 \text{ yd}) \\ &= 1.5 \times (3 \text{ ft}) \\ &= 4.5 \text{ ft} \end{aligned}$$

$$\begin{array}{r} \text{45 tenths} \\ \times 84 \\ \hline 180 \\ + 3600 \\ \hline 378.0 \end{array}$$

Jeanne has to buy
378 feet of ribbon.

- b. If the ribbon costs 10¢ per foot, what is the total cost of the ribbon in dollars? Explain your reasoning, including how you decided where to place the decimal.

$$378 \times 10 \text{ ¢} = 3780 \text{ ¢} = \$37.80$$

When I multiplied by 10, all the digits got 10 times larger and moved one place to the left. That was 3,780 cents. To find dollars, I divided by 100 which moved my digits back 2 places to the left, so my decimal point went between the 7 and 8.

- c. A manufacturer is making 1,000 times as many bows as Jeanne to sell in stores nationwide. Write an expression using exponents to show how many yards of ribbon the manufacturer will need. Do not calculate the total.

$$84 \times 10^3 \times 1.5$$