

Name _____

Date _____

1. What is the greatest multiple of 7 that is less than 60?

2. Identify each number as prime or composite. Then list all of its factors.

a. 3 _____

b. 6 _____

c. 15 _____

d. 24 _____

e. 29 _____

3. 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.	$(560 + 440) \times 14$	

4. 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

5. 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 $\times 30 =$ _____

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

a. $514 \times 33 =$ _____ b. $546 \times 405 =$ _____

7. 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?
8. Jeanne makes birdhouses to sell at the craft fair. Each birdhouse requires 1.5 yards of twine. Remember, 1 yard = 3 feet.
- At the hardware store, twine is sold by the foot. If Jeanne wants to make 84 birdhouses, how many feet of twine must she buy? Show all your work.
 - If the twine costs 10¢ per foot, what is the total cost of the twine in dollars? Explain your reasoning, including how you decided where to place the decimal.
 - A manufacturer is making 1,000 times as many birdhouses as Jeanne to sell in stores nationwide. Write an expression to show how many yards of twine the manufacturer will need. Do not calculate the total.

**Mid-Module Assessment Task
Standards Addressed**

Topics A–E

Number and Operations**The student is expected to:**

- 5.2A** represent the value of the digit in decimals through the thousandths using expanded notation and numerals;
- 5.3A** estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division;
- 5.3B** multiply with fluency a three-digit number by a two-digit number using the standard algorithm;
- 5.3D** represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models;
- 5.3E** solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers;
- 5.3K** add and subtract positive rational numbers fluently.

Algebraic Reasoning**The student is expected to:**

- 5.4A** identify prime and composite numbers;
- 5.4B** represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity;
- 5.4E** describe the meaning of parentheses and brackets in a numeric expression;
- 5.4F** simplify numerical expressions that do not involve exponents, including up to two levels of grouping.

Geometry and Measurement**The student is expected to:**

- 5.7** solve problems by calculating conversions within a measurement system, customary or metric.

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 students is to achieve Step 4 mastery. These steps are meant to help teachers and students identify and celebrate what the students 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 5.4A	The student answers incorrectly with a number that is not a multiple of 7.	The student answers incorrectly with a number that is a multiple of 7 but greater than 60.	The student answers with a multiple of 7 that is less than 60 but not 56.	The Student correctly answers: The greatest multiple of 7 that is less than 60 is 56.
2 5.4A	The student is unable to complete the majority of Parts (a)–(e).	The student correctly answers prime of composite for three parts and misses more than a total of three factors.	The student correctly answers prime or composite for four of the five parts and misses three or fewer factors.	The student correctly answers: a. Prime; 1, 3 b. Composite; 1, 2, 3, 6 c. Composite; 1, 3, 5, 15 d. Composite; 1, 2, 3, 4, 6, 8, 12, 24 e. Prime; 1, 29
3 5.4E 5.4F	Student is able to answer one to three items correctly.	Student is able to answer four to seven items correctly.	Student is able to answer eight to eleven items correctly.	Student is able to answer all 12 items correctly.
4 5.4E	Student is unable to compare the expressions.	Student is able to correctly compare at least two pairs of expressions but is unable to explain reasoning.	Student is able to correctly compare at least two pairs of expressions and is able to explain reasoning on some parts of the task.	Student correctly compares all pairs of expressions and is able to explain reasoning for all parts of the task.



A Progression Toward Mastery

<p>5</p> <p>5.2A 5.3A 5.3D–E 5.3K</p>	<p>Student is unable to correctly multiply either Part (a) or (b) and makes no attempt to explain the relationship between products.</p>	<p>Student is able to multiply either Part (a) or (b) correctly but makes no attempt to explain the relationship between the products.</p>	<p>Student is able to correctly multiply both Parts (a) and (b) and provides some explanation of the relationship between the products.</p>	<p>Student correctly multiplies both parts of the task and provides a complete explanation of the relationship between the products using words, numbers, or pictures.</p> <p>a. 750 b. 75</p>
<p>6</p> <p>5.3B</p>	<p>Student does not use the standard algorithm or any strategy to multiply either Part (a) or (b).</p>	<p>Student does not use the standard algorithm but uses another strategy to multiply Part (a) and/or Part (b).</p>	<p>Student uses the standard algorithm to multiply but makes errors in the partial products or the final product.</p>	<p>Student uses the standard algorithm to correctly multiply both Parts (a) and (b).</p> <p>a. 16,962 b. 221,130</p>
<p>7</p> <p>5.3A 5.3B 5.3D–E 5.3K</p>	<p>Student uses incorrect reasoning and neither multiplies nor adds.</p>	<p>Student uses partially correct reasoning (multiplies but does not add, or adds but does not multiply) and makes calculation errors.</p>	<p>Student uses correct reasoning but makes calculation errors.</p>	<p>Student uses correct reasoning and also calculates the total correctly as \$264.95.</p>
<p>8</p> <p>5.2A 5.3A 5.3B 5.3D–E 5.3K 5.4B 5.4E 5.4F 5.7</p>	<p>Student uses incorrect reasoning in most parts of the task and is unable to correctly convert, calculate, and/or write an accurate equation.</p>	<p>Student uses some correct reasoning and is able to answer one part of the task.</p>	<p>Student uses correct reasoning but makes calculation errors on part of the task or writes an incorrect equation.</p>	<p>Student uses correct reasoning, correctly calculates all parts of the task, and writes a correct equation.</p> <p>a. 378 ft b. \$37.80 c. $t = 84 \times 1.5 \times 1,000$ or $t = 84 \times 1,000 \times 1.5$</p>

Name Charlie

Date _____

1. What is the greatest multiple of 7 that is less than 60?

The greatest multiple of 7 that is less than 60 is 56.

2. Identify each number as prime or composite. Then list all of its factors.

a. 3 prime 1, 3b. 6 composite 1, 2, 3, 6c. 15 composite 1, 3, 5, 15d. 24 composite 1, 2, 3, 4, 6, 8, 12, 24e. 29 prime 1, 29

3. 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

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

a. 100×8 $<$ $25 \times (4 \times 9)$
 The product here is 800. The product of this part is 100, so 100×9 is equal to 900

b. 48×12 $>$ 50 twelves – 3 twelves
 This is 48 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.

5. 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)

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

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

$$\begin{array}{r} 514 \\ \times 33 \\ \hline 1542 \\ + 15420 \\ \hline 16962 \end{array}$$

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

$$\begin{array}{r} 546 \\ \times 405 \\ \hline 2730 \\ + 218400 \\ \hline 221130 \end{array}$$

7. 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} $	<p>The school spent \$264.95 in all.</p>
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8. Jeanne makes birdhouses to sell at the craft fair. Each birdhouse requires 1.5 yards of twine.
- a. At the hardware store, twine is sold by the foot. If Jeanne wants to make 84 birdhouses, how many feet of twine 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} 45 \text{ tenths} \\ \times 84 \\ \hline 180 \\ + 3600 \\ \hline 378.0 \end{array} $	<p>Jeanne has to buy 378 feet of twine.</p>
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- b. If the twine costs 10¢ per foot, what is the total cost of the twine 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 birdhouses as Jeanne to sell in stores nationwide. Write an equation to show how many yards of twine, t , the manufacturer will need. Do not calculate the total.

$$t = 84 \times 1,000 \times 1.5$$