

Name _____

Date _____

1. Aunt Korina and her 3 friends decide to share a cab to go to the mall. If they each spent \$6, how much did the cab ride cost altogether? Write an equation using a question mark or an empty box to represent the unknown. Solve.

2. Aunt Korina's 3 friends each order pasta and a lemonade for lunch. Aunt Korina orders only chicken salad.

- a. Use the menu to find how much they spend altogether.

Lunch Menu	
Pasta	\$7
Chicken Salad	\$9
Lemonade	\$2

- b. Aunt Korina mentally checks the total using $4 \times \$9$. Explain her strategy.

3. After lunch, the friends notice a sale. Compare the crossed out prices to the new sale prices. If all sale prices are calculated in the same way, what would the sale price be on an item that originally cost \$24? Use words and equations to explain how you know.

Original Price	Sale Price
\$12	\$4
\$21	\$7
\$27	\$9
\$3	\$1
\$24	?

4. Multiplicative Comparison Problem:

Riley buys a shirt that costs \$28 and pants that cost 3 times as much. How much did Riley spend in all?



5. Complete as many problems as you can in 100 seconds. The teacher will time you and tell you when to stop.

$2 \times 1 = \underline{\quad}$ $4 \div 2 = \underline{\quad}$ $\underline{\quad} = 10 \div 5$ $3 \times 3 = \underline{\quad}$ $2 \times \underline{\quad} = 4$

$\underline{\quad} \times 6 = 12$ $100 \div 10 = \underline{\quad}$ $8 \times \underline{\quad} = 24$ $\underline{\quad} = 9 \times 3$ $\underline{\quad} = 30 \div 10$

$5 \times 3 = \underline{\quad}$ $8 \div 2 = \underline{\quad}$ $\underline{\quad} \times 3 = 12$ $\underline{\quad} = 16 \div 4$ $6 \times 4 = \underline{\quad}$

$9 \times 4 = \underline{\quad}$ $10 \times \underline{\quad} = 100$ $40 \div 8 = \underline{\quad}$ $\underline{\quad} = 3 \times 5$ $\underline{\quad} \times 4 = 20$

$7 \times \underline{\quad} = 35$ $\underline{\quad} = 54 \div 9$ $\underline{\quad} \times 6 = 36$ $8 \times 6 = \underline{\quad}$ $24 \div 4 = \underline{\quad}$

$9 \times 6 = \underline{\quad}$ $\underline{\quad} = 49 \div 7$ $8 \times \underline{\quad} = 56$ $\underline{\quad} = 6 \times 7$ $21 \div 3 = \underline{\quad}$

$7 \times 7 = \underline{\quad}$ $\underline{\quad} \times 9 = 63$ $\underline{\quad} = 64 \div 8$ $6 \times \underline{\quad} = 48$ $\underline{\quad} = 4 \times 8$

$24 \div 3 = \underline{\quad}$ $81 \div 9 = \underline{\quad}$ $63 \div 7 = \underline{\quad}$ $8 \times 9 = \underline{\quad}$ $9 \times \underline{\quad} = 81$

End-of-Module Assessment Task
Standards Addressed

Topics A–F

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

- 3.4F** Recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.
- 3.4K** Solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

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

- 3.5A** Represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.
- 3.5B** Represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations.
- 3.5D** Determine the unknown whole number in a multiplication or division equation, relating three whole numbers when the unknown is either a missing factor or product.
- 3.5E** Represent real-world relationships using number pairs in a table and verbal descriptions.

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. Problem 5 is scored differently since it is a timed assessment of fluency. Students complete as many problems as they can in two minutes. Although this page of the assessment contains 40 questions, answering 30 correct within the time limit is considered passing.

A Progression Toward Mastery				
Assessment Task Item and Standards Assessed	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 3.4K 3.5D	Student is unable to write and solve an equation.	Student writes a multiplication equation using the incorrect factors and without a question mark or box to represent the unknown.	Student writes a multiplication equation using a question mark or an empty box to represent the unknown but calculates an incorrect answer (e.g., $4 \times \$6 = ?$; $? =$ wrong answer).	Student correctly writes and solves $4 \times \$6 = ?$; $? = \$24$.
2 3.4K 3.5A 3.5B 3.5D	Student is unable to answer either question correctly.	Student attempts to solve Part (a).	Student writes correct equations and solves for the unknown in Part (a) but provides inaccurate explanation in Part (b).	Student correctly: <ul style="list-style-type: none"> ▪ Finds the total, \$36, in Part (a). ▪ Provides accurate explanation of strategy in Part (b).



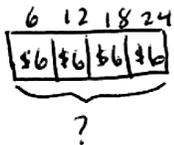
A Progression Toward Mastery

<p>3</p> <p>3.4I</p> <p>3.5E</p>	<p>Student is unable to find and explain the pattern.</p>	<p>Student attempts to find and explain the pattern.</p>	<p>Student understands how the sale prices are calculated but incorrectly finds the sale price of \$24 (e.g., $\\$24 \div 3 =$ wrong answer).</p>	<p>Student clearly:</p> <ul style="list-style-type: none"> ▪ Explains the sale prices are calculated by dividing the original price by 3. ▪ Writes $\\$24 \div 3 = \\8.
<p>4</p> <p>3.5A</p> <p>3.5B</p>	<p>Student is unable to answer question correctly.</p>	<p>Student attempts to model the multiplicative comparison, but draws an incorrect number of units.</p>	<p>Students draws the multiplicative comparison model correctly but makes a calculation error.</p>	<p>Student models the multiplicative comparison correctly and calculates the correct total of \$112.</p>
<p>5</p> <p>3.4F</p>	<p>Use the attached sample work to correct students' answers on the fluency page of the assessment.</p> <p>Students who answer 30 or more questions correctly within the allotted time pass this portion of the assessment. For students who do not pass, consider re-administering this fluency page with each subsequent End-of-Module Assessment until they are successful.</p> <p>Analyze the mistakes students make on this assessment to further guide fluency instruction. Below are possible questions to ask as part of this analysis:</p> <ul style="list-style-type: none"> ▪ Did this student struggle with multiplication, division, or both? ▪ Did this student struggle with a particular factor? ▪ Did the student consistently miss problems with the unknown in a particular position? 			

Name Gina

Date _____

1. Aunt Korina and her 3 friends decide to share a cab to go to the mall. If they each spent \$6, how much did the cab ride cost altogether? Write an equation using a question mark or an empty box to represent the unknown. Solve.



$$4 \times \$6 =$$

$$n = \$24$$

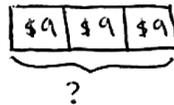
The cab ride costs \$24.

2. Aunt Korina's 3 friends each order pasta and a lemonade for lunch. Aunt Korina orders only chicken salad.
a. Use the menu to find how much they spend altogether.

Lunch Menu	
Pasta	\$7
Chicken Salad	\$9
Lemonade	\$2

$$\$7 + \$2 = \$9$$

$$\begin{aligned} & \$27 + \$9 \\ & = \$36 \end{aligned}$$



They spend \$ 36 altogether.

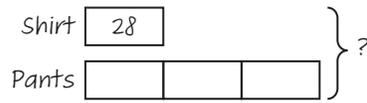
- b. Aunt Korina mentally checks the total using $4 \times \$9$. Explain her strategy.
3 friends each spent \$9. Aunt Korina also spent \$9. So, they spend $4 \times \$9$ altogether. The strip diagrams above also show 4 units of \$9.
3. After lunch, the friends notice a sale. Compare the crossed out prices to the new sale prices. If all sale prices are calculated in the same way, what would the sale price be on an item that originally cost \$24? Use words and equations to explain how you know.

Original Price	Sale Price
\$12	\$4
\$21	\$7
\$27	\$9
\$3	\$1
\$24	?

$$\$24 \div 3 = \$8$$

The sale price is \$8. The sale price is found by dividing the original price by 3.

4. Riley bought a shirt that cost \$28 and a pair of pants that cost 3 times as much. How much did Riley spend in all?



$$\begin{array}{r} 28 \\ \times 3 \\ \hline 24 \\ + 60 \\ \hline 84 \end{array}$$

$$28 + 84 = ?$$

$$112 = ?$$

Riley spent \$112.

5. Complete as many problems as you can in 100 seconds. The teacher will time you and tell you when to stop.

$2 \times 1 = 2 \quad 4 \div 2 = 2 \quad 2 = 10 \div 5 \quad 3 \times 3 = 9 \quad 2 \times 2 = 4$

$2 \times 6 = 12 \quad 100 \div 10 = 10 \quad 8 \times 3 = 24 \quad 27 = 9 \times 3 \quad 3 = 30 \div 10$

$5 \times 3 = 15 \quad 8 \div 2 = 4 \quad 4 \times 3 = 12 \quad 4 = 16 \div 4 \quad 6 \times 4 = 24$

$9 \times 4 = 36 \quad 10 \times 10 = 100 \quad 40 \div 8 = 5 \quad 15 = 3 \times 5 \quad 5 \times 4 = 20$

$7 \times 5 = 35 \quad 6 = 54 \div 9 \quad 6 \times 6 = 36 \quad 8 \times 6 = 48 \quad 24 \div 4 = 6$

$9 \times 6 = 54 \quad 7 = 49 \div 7 \quad 8 \times 7 = 56 \quad 42 = 6 \times 7 \quad 21 \div 3 = 7$

$7 \times 7 = 49 \quad 7 \times 9 = 63 \quad 8 = 64 \div 8 \quad 6 \times 8 = 48 \quad 32 = 4 \times 8$

$24 \div 3 = 8 \quad 81 \div 9 = 9 \quad 63 \div 7 = 9 \quad 8 \times 9 = 72 \quad 9 \times 9 = 81$