Name _____   Date _____

1. Mrs. Tran plants 2 rows of 5 carrots in her garden.

    a. Draw an array that represents Mrs. Tran's carrots. Use an X to show each carrot.

    b. Mrs. Tran adds 3 more rows of 5 carrots to her garden.

        ▪ Use circles to show her new carrots on the array in Part (a).
        ▪ Fill in the blanks below to show how she added the five rows.

            _____ fives + _____ fives = _____ fives

        ▪ Write a sentence to explain your thinking.

    c. Find the total number of carrots Mrs. Tran planted.

    d. Write a multiplication sentence to describe the array representing the total number of carrots Mrs. Tran planted.

2. Mrs. Tran picks 15 tomatoes from her garden. She puts 5 tomatoes in each bag.

   a. Draw Mrs. Tran's bags of tomatoes.

   b. Write a multiplication sentence that describes your drawing in Part (a).

3. Mrs. Tran plants 12 sunflowers in her garden. She plants them in 3 rows.

   a. Fill in the blanks below to make a true division sentence. What does the answer represent?

   _____ ÷ _____ = _____

   b. Mrs. Tran adds 2 more identical rows of sunflowers to her 3 original rows. Draw an array to show how many flowers she has now.

   c. Mrs. Tran figured out how many flowers she planted. Her work is shown in the box below. Would Mrs. Tran get the same result if she multiplied 5 × 4? Explain why or why not.

   $$(3 \times 4) + (2 \times 4) = 12 + 8$$
   $$= 20$$

Mid-Module Assessment Task	Topics A–C
Standards Addressed	

Represent and solve problems involving multiplication and division.

3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*

3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*

Understand properties of multiplication and the relationship between multiplication and division.

3.OA.5 Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*

3.OA.6 Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

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 and Standards Addressed	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.OA.1 3.OA.2 3.OA.6	Student answers at least one question correctly.	Student answers at least two questions correctly.	Student answers at least three questions correctly. Mistakes may include the following: ▪ Completes the equation in Part (b) incorrectly. ▪ Provides inaccurate explanation in Part (b). ▪ Writes a number sentence for Part (d) that describes the original array in Part (a) ($2 \times 5 = 10$ or $5 \times 2 = 10$).	Student answers every question: ▪ Draws accurate arrays. ▪ Accurately completes the equation in Part (b). ▪ Provides accurate explanation of the equation in Part (b). ▪ Accurately finds the total number of carrots. ▪ Writes $5 \times 5 = 25$ in Part (d).
2 3.OA.1	Student is unable to answer either question correctly. The attempt shows the student may not understand the meaning of the questions.	Student may or may not answer one question correctly. Mistakes may include those listed in the box to the right, and/or: ▪ Draws unequal groups. ▪ Writes an equation using 5, 3, and 15 but a symbol or operation other than multiplication.	Student answers at least one question correctly. Mistakes may include one of the following: ▪ Draws 5 equal groups. ▪ Writes 15 as a factor.	Student correctly: ▪ Represents 3 groups, each with a value of 5. ▪ Writes $5 \times 3 = 15$ or $3 \times 5 = 15$.

A Progression Toward Mastery				
3 **3.OA.1** **3.OA.5**	Student is unable to answer any question correctly. The attempt shows the student may not understand the meaning of the questions.	Student answers at least one question correctly. Mistakes may include those listed in the box to the right, and/or: ▪ Mixes up the order of numbers in the division sentence (e.g., $3 ÷ 12 = 4$). ▪ Incorrectly identifies what the answer represents in Part (a). ▪ Inaccurately draws the array.	Student answers at least two questions correctly. Mistakes may include: ▪ Not identifying the distributive property in Part (c). ▪ Explanation may only recognize that $5 × 4$ also equals 20.	Student correctly: ▪ Writes $12 ÷ 3 = 4$. ▪ Identifies that the answer represents the number of flowers in each row. ▪ Draws an array. ▪ Writes an explanation that includes the distributive property (may or may not use the words *distributive property*).

Name ___Gina_____   Date _____

1. Mrs. Tran plants 2 rows of 5 carrots in her garden.

    a. Draw an array that represents Mrs. Tran's carrots. Use an X to show each carrot.

        X X X X X
        X X X X X
        O O O O O
        O O O O O
        O O O O O

    b. Mrs. Tran adds 3 more rows of 5 carrots to her garden.

        ▪ Use circles to show her new carrots on the array in Part (a).
        ▪ Fill in the blanks below to show how she added the five rows.

            ___2___ fives + ___3___ fives = ___5___ fives

        ▪ Write a sentence to explain your thinking.

        Mrs. Tran planted 2 rows of five first. Then she
        planted 3 more rows of five. Now she has 5
        rows of five.

    c. Find the total number of carrots Mrs. Tran planted.

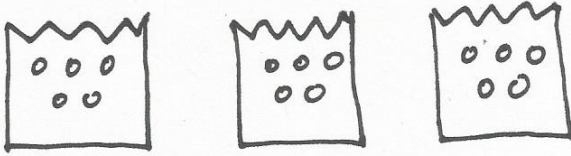   R1   R2   R3   R4   R5
        5, 10, 15, 20, 25

    d. Write a multiplication sentence to describe the array representing the total number of carrots
        Mrs. Tran planted.

        5 x 5 = 25

        Mrs. Tran planted 25 carrots.

2. Mrs. Tran picks 15 tomatoes from her garden. She puts 5 tomatoes in each bag.

   a. Draw Mrs. Tran's bags of tomatoes.

   b. Write a multiplication sentence that describes your drawing in Part (a).

   $$3 \times 5 = 15$$

3. Mrs. Tran plants 12 sunflowers in her garden. She plants them in 3 rows.

   a. Fill in the blanks below to make a true division sentence. What does the answer represent?

   $$\underline{12} \div \underline{3} = \underline{4}$$

   The answer, 4, is how many flowers are in each row.

   b. Mrs. Tran adds 2 more identical rows of sunflowers to her 3 original rows. Draw an array to show how many flowers she has now.

   ```
   X X X X 4
   X X X X 8
   X X X X 12
   O O O O 16
   O O O O 20
   ```

   She has 20 flowers now.

   c. Mrs. Tran figured out how many flowers she planted. Her work is shown in the box below. Would Mrs. Tran get the same result if she multiplied 5 × 4? Explain why or why not.

   $$(3 \times 4) + (2 \times 4) = 12 + 8$$
   $$= 20$$

   Yes, she would get the same answer! 5 x 4 = 20
   If you look at her work, (3x4) + (2x4) is the
   same as (3+2)x4, which is 5x4. Her work shows
   the new rows of flowers and the old rows of
   flowers added together.