Name: _Answer Key_   Date: _____

Mid-Module Assessment Lessons 1-10 Study Guide

1. Ms. Cathy plants 3 rows of 4 peppers in her garden.

a. Draw an array that represents Ms. Cathy's peppers. Use an X to show each ~~carrot.~~ Pepper

$$5 \times 4 = 20 \begin{cases} \begin{rcases} X\ X\ X\ X \\ X\ X\ X\ X \\ X\ X\ X\ X \end{rcases} 3 \times 4 = 12 \\ \left. \begin{array}{} O\ O\ O\ O \\ O\ O\ O\ O \end{array} \right\} 2 \times 4 = 8 \end{cases}$$

b. Ms. Cathy adds 2 more rows of 4 peppers to her garden.
- Use circles to show her new peppers on the array in Part (a).
- Fill in the blanks below to show how she added the five rows.

__3__ fours + __2__ fours = __5__ fours

- Write a sentence to explain your thinking. Ms. Cathy planted 3 rows of 4. Then she added 2 more rows of 4 for a total of 5 rows of 4 peppers.

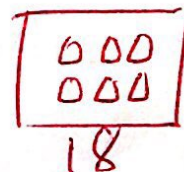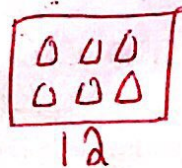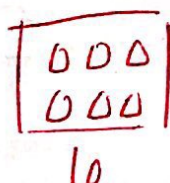c. Find the total number of peppers that Ms. Cathy planted.

④ ⑧ ⑫ ⑯ ⑳ She planted 20 peppers

d. Write a multiplication sentence to describe the array representing the total number of peppers Ms. Cathy planted.

$$5 \times 4 = 20$$

2. Ms. Cathy picks 18 onions from her garden. She puts 6 onions in a bag.

a. Draw Ms. Cathy's onions.

| O O △ | | O △ O | | O O O |
| O △ O | | O △ △ | | O △ O |

6   12   18

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

* $3 \times 6 = 18$ or 3 groups of 6 is 18.

3. Ms. Cathy plants (15) tulips 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?

$$\underline{15} \div \underline{3} = \underline{5}$$

*Remember that part (b) still connects to #3

b. Ms. Cathy adds two more identical rows of tulips to her original 5 rows. Draw an array to show how many flowers she has now.

$$
5 \times 5 = 25
\begin{cases}
\left.
\begin{array}{l}
\text{X X X X X} \\
\text{X X X X X} \\
\text{X X X X X}
\end{array}
\right\} 3 \times 5 = 15 \\
\left.
\begin{array}{l}
\text{O O O O O} \\
\text{O O O O O}
\end{array}
\right\} 2 \times 5 = 10
\end{cases}
$$

c. Ms. Cathy figured out how many flowers she planted. Her work is shown in the box below. Would Ms. Cathy get the same result if she multiplied (5x5)? Explain why or why not.

$$(3 \times 5) + (2 \times 5) = 15 + 10 = 25$$

Yes, she would get the same result! Her work shows that $(3 \times 5) + (2 \times 5)$ is the same thing as $(3+2) \times 5 = 5 \times 5$ or 25