Eureka Math Grade 4 Module 3 Mid-Module **REVIEW** Assessment
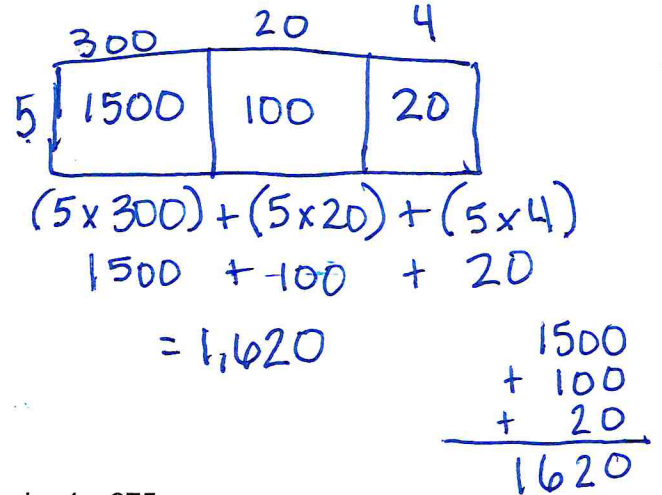
$A = l \times w$

Name _____Key_____ #_____ Date _____

1. Draw an area model to solve the following. Find the value of the following expression.

   a. 20 x 40

   40

   20×40
   2 tens x 4 tens
   = 8 hundreds

   20

   20 x 40 = 800

   b. 5 x 324

	300	20	4
5	1500	100	20

   $(5 \times 300) + (5 \times 20) + (5 \times 4)$
   1500 + 100 + 20
   = 1,620

   1500
   + 100
   + 20
   1620
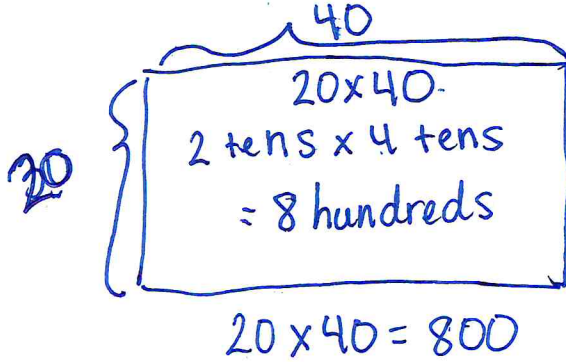
2. Use any place value strategy to multiply.

   a. 3 x 75

   75
   x 3   partial products
   15
   + 210
   225

   b. 4 x 275

   275
   x 4   partial products
   1 20
   + 280
   800
   1,100

   c. 8 x 1,206

   1,206   standard algorithm
   x   8
   9,648

   d. 7,052 x 6

   7,052   standard algorithm
   x   6
   42,312

Solve using a model or equation. Solve your work and write your answer as a statement.

3. A movie theater has two rooms. Room A has 7 rows of seats with 14 seats in each row. Room B has three times as many seats as room A. How many seats are there in both rooms?

7×14

Room A: 98

Room B: $98 \mid 98 \mid 98$

294

$\begin{array}{r} 14 \\ \times 7 \\ \hline 98 \end{array}$

$\begin{array}{r} 98 \\ \times 3 \\ \hline 294 \end{array}$

$\begin{array}{r} 294 \\ + 98 \\ \hline 392 \end{array}$

There are 392 seats in both rooms.

4. The high school art teacher has 6 cases of crayons with 61 boxes in each case. The elementary school art teacher has 9 cases of crayons 112 boxes in each case. How many total boxes of crayons do both teachers have? Is your answer reasonable? Explain.

61×6

HS: $61 \mid \ \mid \ \mid \ \mid \ \mid$

ES: $112 \mid \ \mid \ \mid \ \mid \ \mid \ \mid \ \mid \ \mid$

112×9

① $\begin{array}{r} 61 \\ \times 6 \\ \hline 366 \end{array}$

$\begin{array}{r} 112 \\ \times 9 \\ \hline 1,008 \end{array}$

$\begin{array}{r} 1,008 \\ + 366 \\ \hline 1,374 \end{array}$

$60 \times 6 = 360$
$100 \times 9 = 900$

$\begin{array}{r} 360 \\ + 900 \\ \hline 1,260 \end{array}$

Both teachers have 1,374 boxes of crayons. My answer is reasonable because it is very close to my estimate of 1,260 boxes.

5. Last year, Ms. Petersen's rectangular garden had a width of 4 meters and an area of 32 square meters. This year, she wants to make the garden three times as long and two times as wide.

$A = l \times w$
$p = $ add up all sides

Last Year ?8m

$4m \boxed{A = 32m^2}$

$32 = \underline{?} \times 4$

This Year 24m
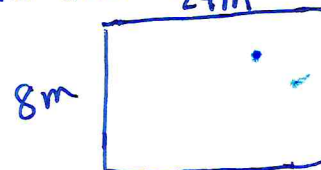
$8m$

$8 \times 3 = 24$
$4 \times 2 = 8$

Eureka Math Grade 4 Module 3 Mid-Module **REVIEW** Assessment

a. Solve the length of last year's garden using the area formula. Then, draw and label the measurements of this year's garden.

Last Year

8m

4m | 32 square meters

$\underline{\quad 8 \quad}$ m

$A = l \times w$
$32 = \underline{\ ?\ } \times 4$
$32 \div 4 = ?$

This Year

24m

8m [rectangle]

$\underline{\text{Length}}$
$8 \times 3 = 24$

$\underline{\text{width}}$
$4 \times 2 = 8$
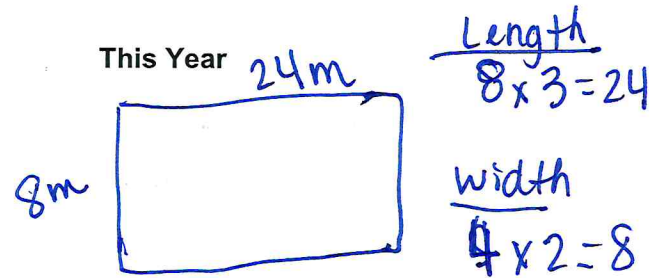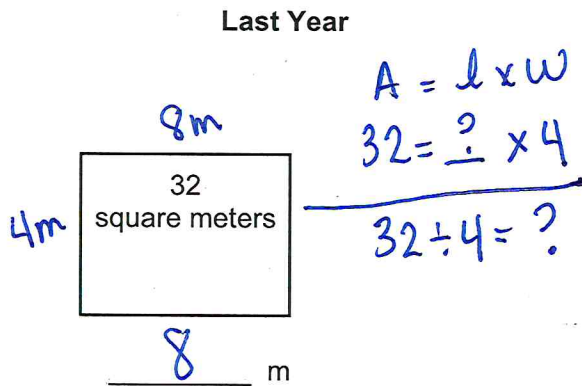
b. How much area for planting will Mr. Petersen have in the new garden?

→ This year

$A = l \times w$
$A = 24 \times 8$
$\boxed{A = 192\ m^2}$

$\begin{array}{r} 24 \\ \times\ 8 \\ \hline 192 \end{array}$

Mr. Petersen will have 192 square meters for planting in the new garden.

perimeter →

c. Last year, Mr. Petersen had a fence all the way around his garden. He can reuse all of the fence he had around the garden last year, but he needs to buy more fencing to go around this year's garden. How many more meters of fencing is needed for this year's garden than last year's?

Fence = perimeter

L.Y.

8m

4m

$P = 8 + 8 + 4 + 4$

16 + 8

$P = 24\,m$

T.Y.

24m
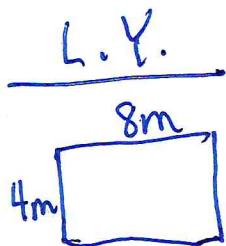
8m

$P = 24 + 24 + 8 + 8$

48 + 16

$P = 64\,m$

64
− 24
40 m
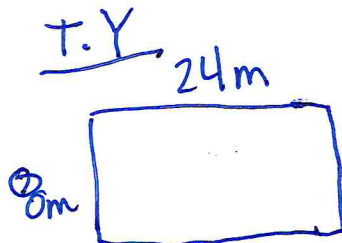
This year's garden will need 40 more meters of fencing.

d. Last year, Mr. Petersen was able to plant 6 rows of carrots with 14 plants in each row. This year, he plans to plant twice as many rows with twice as many carrot plants in each. How many carrot plants will he plant this year? Write a multiplication equation to solve. Assess the reasonableness of your answer.
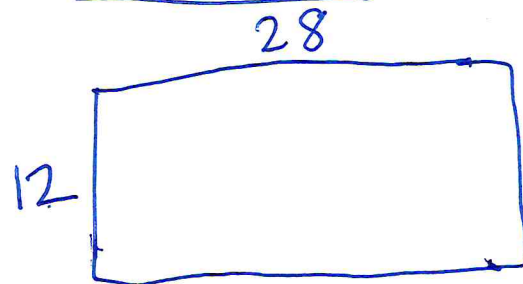
Last Year

14

6

This Year

28

12

30
× 10
300

28
× 12
16
+ 40
80
200
336
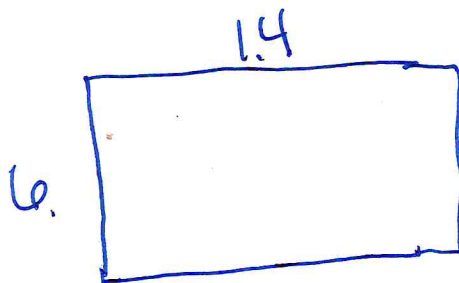
$A = \ell \times w$
$A = 28 \times 12$

He will plant 336 carrot plants this year. My answer is reasonable because it is close to my estimate of 300.