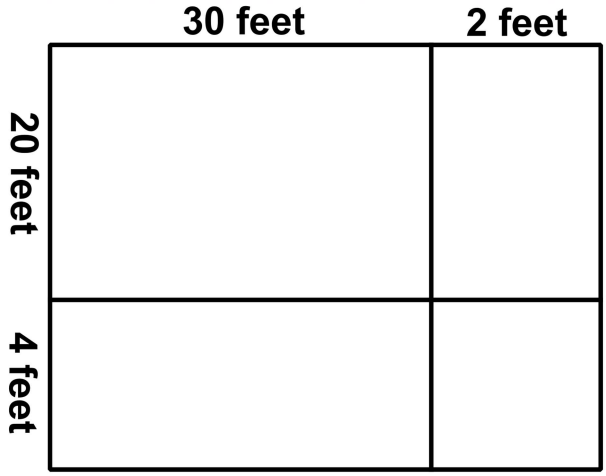
Name: _____ Date: _____

MULTIDIGIT MULTIPLICATION AND DIVISION
N-GEN MATH® 6

In fifth grade math, you worked extensively on learning standard methods to multiply and divide multidigit (more than one place) numbers. In this lesson we review these procedures and why they work.

***Exercise* #1:** A rectangle has a length of 32 feet and a width of 24 feet. It is broken into four sections with lengths as shown in the picture.



(a) Find the area of each of the four rectangles in the picture and write their areas inside each. Find the total area by adding.

(b) Find the product below using the standard algorithm. How do the rows of this product relate to the area of the rectangles?

$$\begin{array}{r} 32 \\ \times 24 \\ \hline \end{array}$$

We will do longer multiplication problems later in this course, but for now we will simply practice one and two-digit multiplication.

***Exercise* #2:** Find each of the following products using the standard algorithm. Carefully show your work.

(a) $\begin{array}{r} 56 \\ \times\ 8 \\ \hline \end{array}$ (b) $\begin{array}{r} 65 \\ \times 42 \\ \hline \end{array}$ (c) $\begin{array}{r} 28 \\ \times 28 \\ \hline \end{array}$

Multidigit division is also an important skill. Let's first review how to divide a multidigit number by a single digit number.

***Exercise* #3:** Chris finds that he can plant 204 sunflower seeds between 6 garden beds so that each bed receives the same number of seeds.

(a) Write a division problem and solve it to find how many seeds get planted in each bed.

(b) Write a multiplication problem and solve it to check your work from (a).

Get some practice in the next exercise with dividing multidigit numbers with single digits.

***Exercise* #4:** Find each of the following **quotients**. All answers will be whole numbers.

(a) $3\overline{)84}$ (b) $5\overline{)335}$ (c) $8\overline{)592}$

Dividing by multidigit numbers is more challenging and needs practice as well.

***Exercise* #5:** Find each of the following quotients. All answers will be whole numbers.

(a) $23\overline{)1035}$ (b) $14\overline{)868}$ (c) $75\overline{)1650}$

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MULTIDIGIT MULTIPLICATION AND DIVISION
N-GEN MATH® 6 HOMEWORK

FLUENCY

1. Find each of the following products using the standard method. Show your work.

(a) 24×7 (b) 78×5 (c) 139×3

(d) 52×33 (e) 86×13 (f) 35×35

2. Find each of the following quotients. The answers will all be whole numbers.

(a) $7\overline{)182}$ (b) $4\overline{)256}$ (c) $9\overline{)423}$

3. Find each of the following quotients. The answers will be whole numbers.

(a) $12\overline{)312}$ (b) $52\overline{)1352}$ (c) $45\overline{)630}$

USING YOUR MATH

4. A shipment of 34 boxes came to Hewlett High School. Each box contained 9 books. Which of the following was the total number of books delivered? Show how you found your answer.

   (1) 156 (3) 306

   (2) 276 (4) 326

5. Yellow Bell Farm delivered 408 eggs to various stores around the Hudson Valley. If all the eggs were delivered in cartons that hold a dozen eggs, then how many cartons were delivered? Justify your answer.

6. Six friends are helping put stamps on letters to be sent to their state senator. There are 14 boxes of letters, each containing 45 letters. If each of the six friends put stamps on an equal number of letters, how many letters did each person stamp? Justify.

REVIEWING YOUR MATH

7. Which is larger, the least common multiple of 4 and 10 or the least common multiple of 6 and 8? Justify your answer.

8. Find the area of the figure below. Show your work and use proper units to express you answer.