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Multiply 3-Digit and 4-Digit Numbers with Regrouping

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When you multiply 3-digit and 4-digit numbers, you may need to regroup.

Estimate. Then find the product.

$$\begin{array}{r} \$1,324 \\ \times \quad 7 \\ \hline \end{array}$$

Step 1 Estimate the product.

\$1,324 rounds to \$1,000; $\$1,000 \times 7 = \$7,000$.

Step 2 Multiply the 4 ones by 7.

Regroup the 28 ones as 2 tens 8 ones.

$$\begin{array}{r} \\ 324 \\ \times \quad 7 \\ \hline 8 \end{array}$$

Step 3 Multiply the 2 tens by 7.

Add the regrouped tens.

Regroup the 16 tens as 1 hundred 6 tens.

$$\begin{array}{r} 2 \\ 324 \\ \times \quad 7 \\ \hline 68 \end{array}$$

Step 4 Multiply the 3 hundreds by 7.

Add the regrouped hundred.

Regroup the 22 hundreds as 2 thousands 2 hundreds.

$$\begin{array}{r} \\ 324 \\ \times \quad 7 \\ \hline 268 \end{array}$$

Step 5 Multiply the 1 thousand by 7.

Add the regrouped thousands.

$$\begin{array}{r} \\ 324 \\ \times \quad 7 \\ \hline 9,268 \end{array}$$

So, $7 \times \$1,324 = \$9,268$.

Since \$9,268 is close to the estimate of \$7,000, the answer is reasonable.

Estimate. Then find the product.

1. Estimate: _____ 2. Estimate: _____ 3. Estimate: _____ 4. Estimate: _____

$$\begin{array}{r} 3,184 \\ \times \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \$828 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2,637 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \$6,900 \\ \times \quad 7 \\ \hline \end{array}$$

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Practice and Homework Lesson 2.11

Multiply 3-Digit and 4-Digit Numbers with Regrouping



COMMON CORE STANDARD—4.NBT.5
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Estimate. Then find the product.

1. Estimate: 4,000

$$\begin{array}{r}
 1\ 2\ 2 \\
 1,467 \\
 \times \quad 4 \\
 \hline
 5,868
 \end{array}$$

2. Estimate: _____

$$\begin{array}{r}
 5,339 \\
 \times \quad 6 \\
 \hline
 \end{array}$$

3. Estimate: _____

$$\begin{array}{r}
 \$879 \\
 \times \quad 8 \\
 \hline
 \end{array}$$

4. Estimate: _____

$$\begin{array}{r}
 3,182 \\
 \times \quad 5 \\
 \hline
 \end{array}$$

5. Estimate: _____

$$\begin{array}{r}
 4,616 \\
 \times \quad 3 \\
 \hline
 \end{array}$$

6. Estimate: _____

$$\begin{array}{r}
 \$2,854 \\
 \times \quad 9 \\
 \hline
 \end{array}$$

7. Estimate: _____

$$\begin{array}{r}
 7,500 \\
 \times \quad 2 \\
 \hline
 \end{array}$$

8. Estimate: _____

$$\begin{array}{r}
 948 \\
 \times \quad 7 \\
 \hline
 \end{array}$$

Problem Solving



9. Lafayette County has a population of 7,022 people. Columbia County's population is 8 times as great as Lafayette County's population. What is the population of Columbia County?

10. A seafood company sold 9,125 pounds of fish last month. If 6 seafood companies sold the same amount of fish, how much fish did the 6 companies sell last month in all?

11. **WRITE** *Math* Explain how finding 4×384 can help you find $4 \times 5,384$. Then find both products.

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Lesson Check (4.NBT.B.5)

- By recycling 1 ton of paper, 6,953 gallons of water are saved. How many gallons of water are saved by recycling 4 tons of paper?
- Esteban counted the number of steps it took him to walk to school. He counted 1,138 steps. How many steps does he take walking to and from school each day?

Spiral Review (4.NBT.A.2, 4.NBT.A.3, 4.NBT.B.4, 4.NBT.B.5)

- A website has 13,406 people registered. What is the word form of this number?
- In one year, the McAlister family drove their car 15,680 miles. To the nearest thousand, how many miles did they drive their car that year?

- Connor scored 14,370 points in a game. Amy scored 1,089 fewer points than Connor. How many points did Amy score?
- Lea buys 6 model cars that each cost \$15. She also buys 4 bottles of paint that each cost \$11. How much does Lea spend on model cars and paint?

