

Multiply 3-Digit and 4-Digit Numbers with Regrouping

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.

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

Step 2 Multiply the 4 ones by 7.

Regroup the 28 ones as 2 tens 8 ones.

$$\begin{array}{r} \$1,324 \\ \times \quad 7 \\ \hline 8 \end{array}$$

Step 3 Multiply the 2 tens by 7.

Add the regrouped tens.

Regroup the 16 tens as 1 hundred 6 tens.

$$\begin{array}{r} \$1,324 \\ \times \quad 7 \\ \hline 68 \end{array}$$

Step 4 Multiply the 3 hundreds by 7.

Add the regrouped hundred.

Regroup the 22 hundreds as 2 thousands 2 hundreds.

$$\begin{array}{r} \$1,324 \\ \times \quad 7 \\ \hline 268 \end{array}$$

Step 5 Multiply the 1 thousand by 7.

Add the regrouped thousands.

$$\begin{array}{r} \$1,324 \\ \times \quad 7 \\ \hline \$9,268 \end{array}$$

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: _____

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

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

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

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