Multiply with Regrouping

Estimate. Then use regrouping to find 28 × 43.

Step 1 Round to estimate the product.

$30 \times 40 = $ **1,200**

Step 2 Think: 28 = 2 tens 8 ones.
Multiply 43 by 8 ones.
8 × 3 = 24. Record the 4. Write
the regrouped 2 above the tens
place.

$$
\begin{array}{r}
\overset{2}{4}3 \\
\times\ 28 \\
\hline
34\!4
\end{array}
$$
←——— 8 × 43

Step 3 Multiply 43 by 2 tens.
20 × 3 = 60 and 20 × 40 = 800.
Record 860 below 344.

Step 4 Add the partial products.

$$
\begin{array}{r}
\overset{2}{4}3 \\
\times\ 28 \\
\hline
344 \\
860 \\
\hline
1{,}204
\end{array}
$$

860 ←——— 20 × 43

1,204 ←——— 344 + 860

So, 28 × 43 = __**1,204**__. 1,204 is close to 1,200. The answer is **reasonable**.

Estimate. Then find the product.

1 Estimate: _____

$$
\begin{array}{r}
36 \\
\times\ 12 \\
\hline
\end{array}
$$

2 Estimate: _____

$$
\begin{array}{r}
43 \\
\times\ 29 \\
\hline
\end{array}
$$

3 Estimate: _____

$$
\begin{array}{r}
51 \\
\times\ 47 \\
\hline
\end{array}
$$