

## 6.1 Expanded Algorithm

For 1 through 10, use the expanded algorithm to multiply.

1. 
$$\begin{array}{r} 83 \\ \times 4 \\ \hline \end{array}$$
 partial product  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$
 partial product  
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \end{array}$$
 product

2. 
$$\begin{array}{r} 57 \\ \times 6 \\ \hline \end{array}$$
 partial product  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$
 partial product  
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \end{array}$$
 product

3. 
$$\begin{array}{r} 19 \\ \times 8 \\ \hline \end{array}$$
  
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

4. 
$$\begin{array}{r} 42 \\ \times 9 \\ \hline \end{array}$$
  
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

5. 
$$\begin{array}{r} 75 \\ \times 6 \\ \hline \end{array}$$
  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

6. 
$$\begin{array}{r} 64 \\ \times 5 \\ \hline \end{array}$$
  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

7. 
$$\begin{array}{r} 17 \\ \times 9 \\ \hline \end{array}$$
  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

8. 
$$\begin{array}{r} 93 \\ \times 4 \\ \hline \end{array}$$
  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

9. 
$$\begin{array}{r} 28 \\ \times 7 \\ \hline \end{array}$$
  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

10. 
$$\begin{array}{r} 56 \\ \times 8 \\ \hline \end{array}$$
  
+ 
$$\begin{array}{r} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \\ \hline \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \end{array}$$

11. A commuter van has 38 seats and 14 windows. How many windows are in 6 commuter vans?

A 70      B 84      C 102      D 228