

Example 3 Use the GCF and the Distributive Property  
p 125 to Find the Sum of Two Numbers

Use the GCF and the Distributive Property to  
find the sum of  $16 + 36$ .

(1st)

$$\begin{array}{cc}
 16 & 36 \\
 \wedge & \wedge \\
 4 \cdot 4 & 6 \cdot 6 \\
 \wedge \quad \wedge & \wedge \quad \wedge \\
 2 \times 2 \times 2 \times 2 & 3 \cdot 2 \cdot 3 \cdot 2
 \end{array}$$

$$\begin{array}{l}
 16 = 2 \times 2 \times 2 \times 2 \\
 36 = 3 \times 2 \times 3 \times 2 \\
 \quad \quad \quad \downarrow \\
 \quad \quad \quad 2 \times 2 = 4 \\
 \quad \quad \quad \text{GCF}
 \end{array}$$

(2nd)

$$\begin{array}{c}
 16 + 36 \\
 4 \left( \frac{4}{\text{GCF}} + \frac{9}{\text{GCF}} \right) \\
 \quad \quad \quad \uparrow \quad \quad \quad \uparrow \\
 \quad \quad \quad 16 \div 4 \quad 36 \div 4
 \end{array}$$

(3rd)

$$\begin{array}{c}
 4 \left( 4 + 9 \right) \\
 \quad \quad \quad \downarrow \\
 16 + 36 = 52
 \end{array}$$

(1st) Find GCF by  
completing  
factor trees

(2nd) Take the GCF  
from both  
numbers &

put on the  
outside of  
the ( ).

Then divide  
those numbers  
by the GCF  
to create a  
new addition  
sentence inside  
the ( ).

(3rd) Check your  
work by multiplying  
the GCF by each  
# inside the ( ).