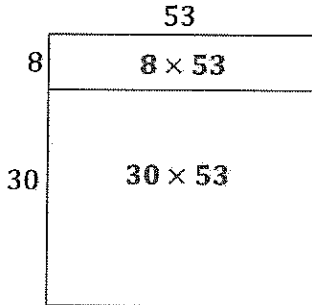


### G4-M3-Lesson 38

1. Express  $38 \times 53$  as two partial products using the distributive property. Solve.



$$38 \times 53 = (\underline{8} \text{ fifty-threes}) + (\underline{30} \text{ fifty-threes})$$

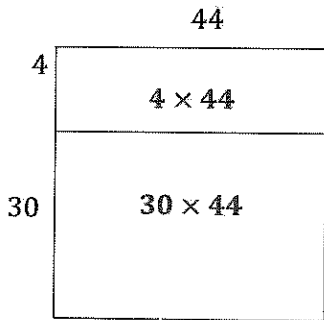
$$\begin{array}{r}
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \hline
 2, \phantom{0} \phantom{1} \phantom{4}
 \end{array}$$

$$\begin{array}{r}
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \hline
 1, \phantom{5} \phantom{9} \phantom{0}
 \end{array}$$

I can solve for each of the partial products and find their sum to verify that I solved the 2-digit by 2-digit algorithm correctly.

$$\begin{array}{r}
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{5} \phantom{9} \phantom{0} \\
 \hline
 4 \phantom{2} \phantom{4}
 \end{array}$$

2. Express  $34 \times 44$  as two partial products using the distributive property. Solve.



$$34 \times 44 = (\underline{4} \times \underline{44}) + (\underline{30} \times \underline{44})$$

$$\begin{array}{r}
 \phantom{+} \phantom{1,} \phantom{3} \phantom{2} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{3} \phantom{2} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{3} \phantom{2} \phantom{0} \\
 \hline
 1, \phantom{4} \phantom{9} \phantom{6}
 \end{array}$$

$$\begin{array}{r}
 \phantom{+} \phantom{1,} \phantom{3} \phantom{2} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{3} \phantom{2} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{3} \phantom{2} \phantom{0} \\
 \hline
 1 \phantom{7} \phantom{6}
 \end{array}$$

$$\begin{array}{r}
 \phantom{+} \phantom{1,} \phantom{2} \phantom{0} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{2} \phantom{0} \phantom{0} \\
 \phantom{+} \phantom{1,} \phantom{2} \phantom{0} \phantom{0} \\
 \hline
 1, \phantom{3} \phantom{2} \phantom{0}
 \end{array}$$

3. Solve the following using two partial products.

$$\begin{array}{r}
 62 \\
 \times 43 \\
 \hline
 186 \\
 + 2,480 \\
 \hline
 2,666
 \end{array}$$

$$\begin{array}{l}
 \underline{3} \times \underline{62} \\
 \underline{40} \times \underline{62}
 \end{array}$$

I think of 3 sixty-twos + 40 sixty-twos.

4. Solve using the multiplication algorithm.

$$62 \times 36$$

$$\begin{array}{r}
 36 \\
 \times 62 \\
 \hline
 72 \\
 + 2,160 \\
 \hline
 2,232
 \end{array}$$

2 ones  $\times$  6 ones = 12 ones. I represent 12 ones as 1 ten 2 ones.

2 ones  $\times$  3 tens = 6 tens. 6 tens + 1 ten = 7 tens. I cross off 1 ten to show that I add it to 6 tens.

6 tens  $\times$  6 ones = 36 tens. I represent 36 tens as 3 hundreds 6 tens 0 ones.

6 tens  $\times$  3 tens = 18 hundreds.  
18 hundreds + 3 hundreds = 21 hundreds.  
I cross off 3 hundreds to show that I add it to 18 hundreds.