

2 x 1: Vertical Multiplication - Regrouping

$\begin{array}{r} 84 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 84 \\ \times 3 \\ \hline 2 \end{array}$	$\begin{array}{r} 1 \\ 84 \\ \times 3 \\ \hline 252 \end{array}$
	<p>Multiply 3 x 4. (12) Write the ones place. (2) Carry the tens place above. (1)</p>	<p>Multiply 3 x 80. Multiply 3 x 8 tens = 24 tens Add the extra ten that was carried over. (24 + 1 = 25)</p>
<p>84 = 80 + 4 Multiply 3 to each.</p>	<p>3 x 4 = <u>12</u></p>	<p>3 x 80 = <u>240</u> <u>12</u> + <u>240</u> = <u>252</u></p>

$\begin{array}{r} 67 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 67 \\ \times 8 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ 67 \\ \times 8 \\ \hline 536 \end{array}$
	<p>Multiply 8 x 7. (56) Write the ones place. (6) Carry the tens place above. (5)</p>	<p>Multiply 8 x 60. Multiply 8 x 6 tens = 48 tens Add the extra 5 tens that were carried over. (48 + 5 = 53)</p>
<p>67 = 60 + 7 Multiply 8 to each.</p>	<p>8 x 7 = <u>56</u></p>	<p>8 x 60 = <u>480</u> <u>56</u> + <u>480</u> = <u>536</u></p>

2 x 1: Regrouping C

$$\begin{array}{r} \textcircled{1} \quad 42 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{7} \quad 77 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{13} \quad 89 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{19} \quad 16 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad 16 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 39 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{14} \quad 73 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{20} \quad 86 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad 63 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 74 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{15} \quad 27 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{21} \quad 18 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{4} \quad 43 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{10} \quad 68 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{16} \quad 23 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{22} \quad 70 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad 77 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{11} \quad 86 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{17} \quad 70 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{23} \quad 35 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 64 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{12} \quad 53 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{18} \quad 38 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{24} \quad 51 \\ \times 7 \\ \hline \end{array}$$

2 x 2: Challenging Regrouping

$$\begin{array}{r} \textcircled{1} \quad 68 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad 55 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 31 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad 66 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 58 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{10} \quad 60 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad 53 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{7} \quad 45 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{11} \quad 70 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{4} \quad 65 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 89 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{12} \quad 43 \\ \times 40 \\ \hline \end{array}$$

3 x 3: Vertical Multiplication - Regrouping

$$\begin{array}{r} 345 \\ \times 624 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ 345 \\ \times 624 \\ \hline 1380 \end{array}$$

Multiply 345 x 4.

$$\begin{array}{r} \\ 345 \\ \times 624 \\ \hline 1380 \end{array}$$

6900 Move down 1 line and add 1 spacer!

Multiply 345 x 2.
Cross out the 4 already used to focus on the 2.

$$\begin{array}{r} \\ 345 \\ \times 624 \\ \hline \end{array}$$

$$1380$$

$$6900$$

$$\begin{array}{r} 207000 \\ \hline \end{array} \text{ Move down 2 lines and add 2 spacers!}$$

Multiply 345 x 6.
Cross out the 2 & 4 already used to focus on the 6.

$$\begin{array}{r} 345 \\ \times 624 \\ \hline \end{array}$$

$$1380 \text{ --- } 345 \times 4$$

$$6900 \text{ --- } 345 \times 20$$

$$+ \begin{array}{r} 207000 \\ \hline \end{array} \text{ --- } 345 \times 600$$

$$215,280$$

Now add the 3 products together.

Mastery

$$\begin{array}{r} \textcircled{1} \quad 91 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad 66 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 32 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad 78 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 32 \\ \times 33 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{10} \quad 33 \\ \times 44 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad 84 \\ \times 29 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{7} \quad 74 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{11} \quad 72 \\ \times 45 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{4} \quad 58 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 58 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{12} \quad 34 \\ \times 39 \\ \hline \end{array}$$

Mastery

$$\begin{array}{r} \textcircled{1} \quad 209 \\ \times 183 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{4} \quad 443 \\ \times 242 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{7} \quad 403 \\ \times 321 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad 239 \\ \times 315 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad 325 \\ \times 163 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 398 \\ \times 244 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad 309 \\ \times 227 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 348 \\ \times 208 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 596 \\ \times 138 \\ \hline \end{array}$$