

# Long multiplication– questions 21 and 28

# Sheet 1

Use long multiplication

3 2 x 4 5

1) Multiply the top ones digit by the bottom ones.      2) Multiply the top tens digit by the bottom ones.

$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 0 \end{array}$ <p><math>2 \times 5 = 10</math> Carry the one.</p>	$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \end{array}$
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3) Add a zero below the ones digits.      4) Multiply the top ones digit by the bottom tens.

$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \end{array}$ <p>This shows that you are multiplying by 40 rather than 4</p>	$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \end{array}$ <p><math>4 \times 2 = 8</math></p>
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5) Multiply the top tens digit by the bottom tens.      6) Add the two answers together.

$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \\ \hline 1 \ 2 \ 8 \ 0 \end{array}$ <p><math>4 \times 3 = 12</math></p>	$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \\ \hline 1 \ 4 \ 4 \ 0 \end{array}$
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$\begin{array}{r} 1821 \\ x \ 39 \\ \hline \end{array}$	$\begin{array}{r} 1652 \\ x \ 28 \\ \hline \end{array}$	$\begin{array}{r} 2342 \\ x \ 89 \\ \hline \end{array}$	$\begin{array}{r} 1102 \\ x \ 50 \\ \hline \end{array}$	$\begin{array}{r} 1828 \\ x \ 30 \\ \hline \end{array}$
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$\begin{array}{r} 1882 \\ x \ 96 \\ \hline \end{array}$	$\begin{array}{r} 2279 \\ x \ 68 \\ \hline \end{array}$	$\begin{array}{r} 1829 \\ x \ 88 \\ \hline \end{array}$	$\begin{array}{r} 2094 \\ x \ 24 \\ \hline \end{array}$	$\begin{array}{r} 1817 \\ x \ 74 \\ \hline \end{array}$
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Use long multiplication

3 2 x 4 5

1) Multiply the top ones digit by the bottom ones.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 0 \end{array}$$

*2 x 5 = 10*  
*Carry the one.*

2) Multiply the top tens digit by the bottom ones.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \end{array}$$

3) Add a zero below the ones digits.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \end{array}$$

*This shows that you are multiplying by 40 rather than 4*

4) Multiply the top ones digit by the bottom tens.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 8 \ 0 \end{array}$$

*4 x 2 = 8*

5) Multiply the top tens digit by the bottom tens.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \end{array}$$

*4 x 3 = 12*

6) Add the two answers together.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \\ \hline 1 \ 4 \ 4 \ 0 \end{array}$$

$\begin{array}{r} 1394 \\ x \ 98 \\ \hline \end{array}$	$\begin{array}{r} 1124 \\ x \ 36 \\ \hline \end{array}$	$\begin{array}{r} 1597 \\ x \ 27 \\ \hline \end{array}$	$\begin{array}{r} 2332 \\ x \ 41 \\ \hline \end{array}$	$\begin{array}{r} 1124 \\ x \ 16 \\ \hline \end{array}$
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$\begin{array}{r} 1352 \\ x \ 33 \\ \hline \end{array}$	$\begin{array}{r} 1325 \\ x \ 31 \\ \hline \end{array}$	$\begin{array}{r} 2007 \\ x \ 27 \\ \hline \end{array}$	$\begin{array}{r} 1124 \\ x \ 46 \\ \hline \end{array}$	$\begin{array}{r} 1922 \\ x \ 67 \\ \hline \end{array}$
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Use long multiplication

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3) Add a zero below the ones digits.      4) Multiply the top ones digit by the bottom tens.

$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 0 \end{array}$ <p>This shows that you are multiplying by 40 rather than 4</p>	$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 8 \ 0 \end{array}$ <p><math>4 \times 2 = 8</math></p>
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5) Multiply the top tens digit by the bottom tens.      6) Add the two answers together.

$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \end{array}$ <p><math>4 \times 3 = 12</math></p>	$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \\ \hline 1 \ 4 \ 4 \ 0 \end{array}$
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$$\begin{array}{r} 1247 \\ x \ 55 \\ \hline \end{array}$$

$$\begin{array}{r} 1323 \\ x \ 65 \\ \hline \end{array}$$

$$\begin{array}{r} 1212 \\ x \ 33 \\ \hline \end{array}$$

$$\begin{array}{r} 1436 \\ x \ 38 \\ \hline \end{array}$$

$$\begin{array}{r} 1441 \\ x \ 25 \\ \hline \end{array}$$

$$\begin{array}{r} 1749 \\ x \ 54 \\ \hline \end{array}$$

$$\begin{array}{r} 1454 \\ x \ 90 \\ \hline \end{array}$$

$$\begin{array}{r} 2491 \\ x \ 78 \\ \hline \end{array}$$

$$\begin{array}{r} 1494 \\ x \ 97 \\ \hline \end{array}$$

$$\begin{array}{r} 2033 \\ x \ 73 \\ \hline \end{array}$$

*Use long multiplication*

3 2 x 4 5

1) Multiply the top ones digit by the bottom ones.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 0 \end{array}$$

$2 \times 5 = 10$   
Carry the one.

2) Multiply the top tens digit by the bottom ones.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \end{array}$$

3) Add a zero below the ones digits.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 0 \end{array}$$

This shows that you are multiplying by 40 rather than 4

4) Multiply the top ones digit by the bottom tens.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 8 \ 0 \end{array}$$

$4 \times 2 = 8$

5) Multiply the top tens digit by the bottom tens.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \end{array}$$

$4 \times 3 = 12$

6) Add the two answers together.

$$\begin{array}{r} x \ 3 \ 2 \\ 4 \ 5 \\ \hline 1 \ 6 \ 0 \\ 1 \ 2 \ 8 \ 0 \\ \hline 1 \ 4 \ 4 \ 0 \end{array}$$

$$\begin{array}{r} 1096 \\ x \ 77 \\ \hline \end{array}$$

$$\begin{array}{r} 2366 \\ x \ 80 \\ \hline \end{array}$$

$$\begin{array}{r} 2224 \\ x \ 40 \\ \hline \end{array}$$

$$\begin{array}{r} 2033 \\ x \ 33 \\ \hline \end{array}$$

$$\begin{array}{r} 2448 \\ x \ 77 \\ \hline \end{array}$$

$$\begin{array}{r} 2477 \\ x \ 46 \\ \hline \end{array}$$

$$\begin{array}{r} 1359 \\ x \ 53 \\ \hline \end{array}$$

$$\begin{array}{r} 2035 \\ x \ 89 \\ \hline \end{array}$$

$$\begin{array}{r} 1787 \\ x \ 76 \\ \hline \end{array}$$

$$\begin{array}{r} 1719 \\ x \ 69 \\ \hline \end{array}$$

## Long multiplication– questions 21 and 28

Sheet 1

$\begin{array}{r} 1821 \\ \times 39 \\ \hline 71019 \end{array}$	$\begin{array}{r} 1652 \\ \times 28 \\ \hline 46256 \end{array}$	$\begin{array}{r} 2342 \\ \times 89 \\ \hline 208438 \end{array}$	$\begin{array}{r} 1102 \\ \times 50 \\ \hline 55100 \end{array}$	$\begin{array}{r} 1828 \\ \times 30 \\ \hline 54840 \end{array}$
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$\begin{array}{r} 1882 \\ \times 96 \\ \hline 180672 \end{array}$	$\begin{array}{r} 2279 \\ \times 68 \\ \hline 154972 \end{array}$	$\begin{array}{r} 1829 \\ \times 88 \\ \hline 160952 \end{array}$	$\begin{array}{r} 2094 \\ \times 24 \\ \hline 50256 \end{array}$	$\begin{array}{r} 1817 \\ \times 74 \\ \hline 134458 \end{array}$
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Sheet 2

$\begin{array}{r} 1394 \\ \times 98 \\ \hline 136612 \end{array}$	$\begin{array}{r} 1124 \\ \times 36 \\ \hline 40464 \end{array}$	$\begin{array}{r} 1597 \\ \times 27 \\ \hline 43119 \end{array}$	$\begin{array}{r} 2332 \\ \times 41 \\ \hline 95612 \end{array}$	$\begin{array}{r} 1124 \\ \times 16 \\ \hline 17984 \end{array}$
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$\begin{array}{r} 1352 \\ \times 33 \\ \hline 44616 \end{array}$	$\begin{array}{r} 1325 \\ \times 31 \\ \hline 41075 \end{array}$	$\begin{array}{r} 2007 \\ \times 27 \\ \hline 54189 \end{array}$	$\begin{array}{r} 1124 \\ \times 46 \\ \hline 51704 \end{array}$	$\begin{array}{r} 1922 \\ \times 67 \\ \hline 128774 \end{array}$
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Sheet 3

$\begin{array}{r} 1247 \\ \times 55 \\ \hline 68585 \end{array}$	$\begin{array}{r} 1323 \\ \times 65 \\ \hline 85995 \end{array}$	$\begin{array}{r} 1212 \\ \times 33 \\ \hline 39996 \end{array}$	$\begin{array}{r} 1436 \\ \times 38 \\ \hline 54568 \end{array}$	$\begin{array}{r} 1441 \\ \times 25 \\ \hline 36025 \end{array}$
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$\begin{array}{r} 1749 \\ \times 54 \\ \hline 94446 \end{array}$	$\begin{array}{r} 1454 \\ \times 90 \\ \hline 130860 \end{array}$	$\begin{array}{r} 2491 \\ \times 78 \\ \hline 194298 \end{array}$	$\begin{array}{r} 1494 \\ \times 97 \\ \hline 144918 \end{array}$	$\begin{array}{r} 2033 \\ \times 73 \\ \hline 148409 \end{array}$
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Sheet 4

$\begin{array}{r} 1096 \\ \times 77 \\ \hline 84392 \end{array}$	$\begin{array}{r} 2366 \\ \times 80 \\ \hline 189280 \end{array}$	$\begin{array}{r} 2224 \\ \times 40 \\ \hline 88960 \end{array}$	$\begin{array}{r} 2033 \\ \times 33 \\ \hline 67089 \end{array}$	$\begin{array}{r} 2448 \\ \times 77 \\ \hline 188496 \end{array}$
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$\begin{array}{r} 2477 \\ \times 46 \\ \hline 113942 \end{array}$	$\begin{array}{r} 1359 \\ \times 53 \\ \hline 72027 \end{array}$	$\begin{array}{r} 2035 \\ \times 89 \\ \hline 181115 \end{array}$	$\begin{array}{r} 1787 \\ \times 76 \\ \hline 135812 \end{array}$	$\begin{array}{r} 1719 \\ \times 69 \\ \hline 118611 \end{array}$
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