

Student Activity Book

All-Partials Multiplication (SAB pp. 165–166)
Questions 1–5

1.

$\begin{array}{r} 515 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{l} \boxed{4500} \leftarrow \boxed{500} \times \boxed{9} \\ \boxed{90} \leftarrow \boxed{10} \times \boxed{9} \\ \boxed{45} \leftarrow \boxed{5} \times \boxed{9} \\ \hline \boxed{4635} \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">500</td> <td style="width: 50px; height: 30px;">10</td> <td style="width: 30px; height: 30px;">5</td> </tr> <tr> <td style="width: 100px; height: 30px;">4500</td> <td style="width: 50px; height: 30px;">90</td> <td style="width: 30px; height: 30px;">45</td> </tr> </table>	500	10	5	4500	90	45
500	10	5						
4500	90	45						

2.

$\begin{array}{r} 238 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{l} \boxed{800} \leftarrow \boxed{4} \times \boxed{200} \\ \boxed{120} \leftarrow \boxed{4} \times \boxed{30} \\ \boxed{32} \leftarrow \boxed{4} \times \boxed{8} \\ \hline \boxed{952} \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">200</td> <td style="width: 50px; height: 30px;">30</td> <td style="width: 30px; height: 30px;">8</td> </tr> <tr> <td style="width: 100px; height: 30px;">800</td> <td style="width: 50px; height: 30px;">120</td> <td style="width: 30px; height: 30px;">32</td> </tr> </table>	200	30	8	800	120	32
200	30	8						
800	120	32						

3.

$\begin{array}{r} 24 \\ \times 12 \\ \hline \end{array}$	$\begin{array}{l} \boxed{8} \leftarrow \boxed{2} \times \boxed{4} \\ \boxed{40} \leftarrow \boxed{2} \times \boxed{20} \\ \boxed{40} \leftarrow \boxed{10} \times \boxed{4} \\ \boxed{200} \leftarrow \boxed{10} \times \boxed{20} \\ \hline \boxed{288} \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">20</td> <td style="width: 30px; height: 30px;">4</td> </tr> <tr> <td style="width: 100px; height: 30px;">200</td> <td style="width: 30px; height: 30px;">40</td> </tr> <tr> <td style="width: 100px; height: 30px;">40</td> <td style="width: 30px; height: 30px;">8</td> </tr> </table>	20	4	200	40	40	8
20	4							
200	40							
40	8							

4.

$\begin{array}{r} 59 \\ \times 96 \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">50</td> <td style="width: 40px; height: 30px;">9</td> </tr> <tr> <td style="width: 100px; height: 30px;">4500</td> <td style="width: 40px; height: 30px;">810</td> </tr> <tr> <td style="width: 100px; height: 30px;">300</td> <td style="width: 40px; height: 30px;">54</td> </tr> </table>	50	9	4500	810	300	54
50	9						
4500	810						
300	54						

5.

$\begin{array}{r} 27 \\ \times 88 \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">80</td> <td style="width: 30px; height: 30px;">8</td> </tr> <tr> <td style="width: 100px; height: 30px;">1600</td> <td style="width: 30px; height: 30px;">160</td> </tr> <tr> <td style="width: 100px; height: 30px;">560</td> <td style="width: 30px; height: 30px;">56</td> </tr> </table>	80	8	1600	160	560	56
80	8						
1600	160						
560	56						

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All-Partials Multiplication

For Questions 1–3, fill in the blank boxes to complete each multiplication problem using the all-partials method. Then write the missing side lengths and partial products into the rectangle to the right.

Example:

$\begin{array}{r} 472 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{l} \boxed{3200} \leftarrow 8 \times \boxed{400} \\ \boxed{560} \leftarrow 8 \times \boxed{70} \\ \boxed{16} \leftarrow 8 \times \boxed{2} \\ \hline \boxed{3776} \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">400</td> <td style="width: 50px; height: 30px;">70</td> <td style="width: 30px; height: 30px;">2</td> </tr> <tr> <td style="width: 100px; height: 30px;">3200</td> <td style="width: 50px; height: 30px;">560</td> <td style="width: 30px; height: 30px;">16</td> </tr> </table>	400	70	2	3200	560	16
400	70	2						
3200	560	16						

1.

$\begin{array}{r} 515 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{l} \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \boxed{} \leftarrow \boxed{10} \times \boxed{} \\ \boxed{} \leftarrow \boxed{} \times \boxed{9} \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">500</td> <td style="width: 50px; height: 30px;">10</td> <td style="width: 30px; height: 30px;">5</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">90</td> <td style="width: 30px; height: 30px;">\boxed{}</td> </tr> </table>	500	10	5	\boxed{}	90	\boxed{}
500	10	5						
\boxed{}	90	\boxed{}						

2.

$\begin{array}{r} 238 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{l} \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> <td style="width: 30px; height: 30px;">8</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> <td style="width: 30px; height: 30px;">\boxed{}</td> </tr> </table>	\boxed{}	\boxed{}	8	\boxed{}	\boxed{}	\boxed{}
\boxed{}	\boxed{}	8						
\boxed{}	\boxed{}	\boxed{}						

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Paper-And-Pencil Multiplication

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3.

$\begin{array}{r} 24 \\ \times 12 \\ \hline \end{array}$	$\begin{array}{l} \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \boxed{} \leftarrow \boxed{} \times \boxed{} \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 100px; height: 30px;">20</td> <td style="width: 30px; height: 30px;">\boxed{}</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 30px; height: 30px;">\boxed{}</td> </tr> <tr> <td style="width: 100px; height: 30px;">40</td> <td style="width: 30px; height: 30px;">8</td> </tr> </table>	20	\boxed{}	\boxed{}	\boxed{}	40	8
20	\boxed{}							
\boxed{}	\boxed{}							
40	8							

For Questions 4–5, fill in the blank boxes to complete each multiplication problem using the all-partials method. Then show how to partition the rectangle to match the problem.

4.

$\begin{array}{r} 59 \\ \times 96 \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; width: 150px; height: 100px;"> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> </tr> </table>	\boxed{}	\boxed{}	\boxed{}	\boxed{}	\boxed{}	\boxed{}
\boxed{}	\boxed{}						
\boxed{}	\boxed{}						
\boxed{}	\boxed{}						

5.

$\begin{array}{r} 27 \\ \times 88 \\ \hline \end{array}$	<table border="1" style="border-collapse: collapse; width: 150px; height: 100px;"> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> </tr> <tr> <td style="width: 100px; height: 30px;">\boxed{}</td> <td style="width: 50px; height: 30px;">\boxed{}</td> </tr> </table>	\boxed{}	\boxed{}	\boxed{}	\boxed{}	\boxed{}	\boxed{}
\boxed{}	\boxed{}						
\boxed{}	\boxed{}						
\boxed{}	\boxed{}						

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