

Distributive Grid multiplication with two- by three-digit numbers (2x3)

Solutions are on page 2

<p>(1) $395 \times 98 = 38,710$</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;">hundreds</th> <th style="text-align: center;">tens</th> <th style="text-align: center;">ones</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">300</td> <td style="text-align: center;">90</td> <td style="text-align: center;">5</td> <td></td> </tr> <tr> <td style="text-align: right;">27,000</td> <td style="border: 1px solid black; text-align: center;">27,000</td> <td style="border: 1px solid black; text-align: center;">8,100</td> <td style="border: 1px solid black; text-align: center;">450</td> <td style="text-align: right;">tens 90</td> </tr> <tr> <td style="text-align: right;">8,100</td> <td style="border: 1px solid black; text-align: center;">2,400</td> <td style="border: 1px solid black; text-align: center;">720</td> <td style="border: 1px solid black; text-align: center;">40</td> <td style="text-align: right;">ones 8</td> </tr> <tr> <td style="text-align: right;">450</td> <td colspan="3"></td> <td></td> </tr> <tr> <td style="text-align: right;">2,400</td> <td colspan="3"></td> <td></td> </tr> <tr> <td style="text-align: right;">720</td> <td colspan="3"></td> <td></td> </tr> <tr> <td style="text-align: right;">40</td> <td colspan="3"></td> <td></td> </tr> <tr> <td style="text-align: right;">+ _____</td> <td colspan="3"></td> <td></td> </tr> <tr> <td style="text-align: right;">38,710</td> <td colspan="3"></td> <td></td> </tr> </tbody> </table>		hundreds	tens	ones			300	90	5		27,000	27,000	8,100	450	tens 90	8,100	2,400	720	40	ones 8	450					2,400					720					40					+ _____					38,710					<p>(2) $507 \times 45 =$</p>	<p>(3) $959 \times 62 =$</p>
	hundreds	tens	ones																																																	
	300	90	5																																																	
27,000	27,000	8,100	450	tens 90																																																
8,100	2,400	720	40	ones 8																																																
450																																																				
2,400																																																				
720																																																				
40																																																				
+ _____																																																				
38,710																																																				
<p>(4) $808 \times 35 =$</p>	<p>(5) $130 \times 73 =$</p>	<p>(6) $649 \times 71 =$</p>																																																		
<p>(7) $265 \times 44 =$</p>	<p>(8) $239 \times 79 =$</p>	<p>(9) $333 \times 96 =$</p>																																																		
<p>(10) $711 \times 20 =$</p>	<p>(11) $575 \times 41 =$</p>	<p>(12) $367 \times 53 =$</p>																																																		

Distributive Grid multiplication with two- by three-digit numbers (2x3)

Also see video: 'Multiplying Multi-Digit Numbers with the Distributive Grid Method'

<p>(1) $395 \times 98 = 38,710$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">300</td> <td style="text-align: center; font-size: large;">90</td> <td style="text-align: center; font-size: large;">5</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">27,000</td> <td style="border: 1px solid black; padding: 5px;">8,100</td> <td style="border: 1px solid black; padding: 5px;">450</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 90</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 8</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">2,400</td> <td style="border: 1px solid black; padding: 5px;">720</td> <td style="border: 1px solid black; padding: 5px;">40</td> </tr> </tbody> </table> <p style="font-size: small;">27,000 8,100 450 2,400 720 40 + _____ 38,710</p>	hundreds	tens	ones			300	90	5			27,000	8,100	450	tens 90	ones 8	2,400	720	40	<p>(2) $507 \times 45 = 22,815$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">500</td> <td style="text-align: center; font-size: large;">0</td> <td style="text-align: center; font-size: large;">7</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">20,000</td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">280</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 40</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 5</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">2,500</td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">35</td> </tr> </tbody> </table> <p style="font-size: small;">20,000 0 280 2,500 0 35 + _____ 22,815</p>	hundreds	tens	ones			500	0	7			20,000	0	280	tens 40	ones 5	2,500	0	35	<p>(3) $959 \times 62 = 59,458$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">900</td> <td style="text-align: center; font-size: large;">50</td> <td style="text-align: center; font-size: large;">9</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">54,000</td> <td style="border: 1px solid black; padding: 5px;">3,000</td> <td style="border: 1px solid black; padding: 5px;">540</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 60</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 2</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">1,800</td> <td style="border: 1px solid black; padding: 5px;">100</td> <td style="border: 1px solid black; padding: 5px;">18</td> </tr> </tbody> </table> <p style="font-size: small;">54,000 3,000 540 1,800 100 18 + _____ 59,458</p>	hundreds	tens	ones			900	50	9			54,000	3,000	540	tens 60	ones 2	1,800	100	18
hundreds	tens	ones																																																						
300	90	5																																																						
27,000	8,100	450	tens 90	ones 8																																																				
2,400	720	40																																																						
hundreds	tens	ones																																																						
500	0	7																																																						
20,000	0	280	tens 40	ones 5																																																				
2,500	0	35																																																						
hundreds	tens	ones																																																						
900	50	9																																																						
54,000	3,000	540	tens 60	ones 2																																																				
1,800	100	18																																																						
<p>(4) $808 \times 35 = 28,280$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">800</td> <td style="text-align: center; font-size: large;">0</td> <td style="text-align: center; font-size: large;">8</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">24,000</td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">240</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 30</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 5</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">4,000</td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">40</td> </tr> </tbody> </table> <p style="font-size: small;">24,000 0 240 4,000 0 40 + _____ 28,280</p>	hundreds	tens	ones			800	0	8			24,000	0	240	tens 30	ones 5	4,000	0	40	<p>(5) $130 \times 73 = 9,490$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">100</td> <td style="text-align: center; font-size: large;">30</td> <td style="text-align: center; font-size: large;">0</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">7,000</td> <td style="border: 1px solid black; padding: 5px;">2,100</td> <td style="border: 1px solid black; padding: 5px;">0</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 70</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 3</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">300</td> <td style="border: 1px solid black; padding: 5px;">90</td> <td style="border: 1px solid black; padding: 5px;">0</td> </tr> </tbody> </table> <p style="font-size: small;">7,000 2,100 0 300 90 0 + _____ 9,490</p>	hundreds	tens	ones			100	30	0			7,000	2,100	0	tens 70	ones 3	300	90	0	<p>(6) $649 \times 71 = 46,079$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">600</td> <td style="text-align: center; font-size: large;">40</td> <td style="text-align: center; font-size: large;">9</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">42,000</td> <td style="border: 1px solid black; padding: 5px;">2,800</td> <td style="border: 1px solid black; padding: 5px;">630</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 70</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 1</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">600</td> <td style="border: 1px solid black; padding: 5px;">40</td> <td style="border: 1px solid black; padding: 5px;">9</td> </tr> </tbody> </table> <p style="font-size: small;">42,000 2,800 630 600 40 9 + _____ 46,079</p>	hundreds	tens	ones			600	40	9			42,000	2,800	630	tens 70	ones 1	600	40	9
hundreds	tens	ones																																																						
800	0	8																																																						
24,000	0	240	tens 30	ones 5																																																				
4,000	0	40																																																						
hundreds	tens	ones																																																						
100	30	0																																																						
7,000	2,100	0	tens 70	ones 3																																																				
300	90	0																																																						
hundreds	tens	ones																																																						
600	40	9																																																						
42,000	2,800	630	tens 70	ones 1																																																				
600	40	9																																																						
<p>(7) $265 \times 44 = 11,660$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">200</td> <td style="text-align: center; font-size: large;">60</td> <td style="text-align: center; font-size: large;">5</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">8,000</td> <td style="border: 1px solid black; padding: 5px;">2,400</td> <td style="border: 1px solid black; padding: 5px;">200</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 40</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 4</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">800</td> <td style="border: 1px solid black; padding: 5px;">240</td> <td style="border: 1px solid black; padding: 5px;">20</td> </tr> </tbody> </table> <p style="font-size: small;">8,000 2,400 200 800 240 20 + _____ 11,660</p>	hundreds	tens	ones			200	60	5			8,000	2,400	200	tens 40	ones 4	800	240	20	<p>(8) $239 \times 79 = 18,881$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">200</td> <td style="text-align: center; font-size: large;">30</td> <td style="text-align: center; font-size: large;">9</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">14,000</td> <td style="border: 1px solid black; padding: 5px;">2,100</td> <td style="border: 1px solid black; padding: 5px;">630</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 70</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 9</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">1,800</td> <td style="border: 1px solid black; padding: 5px;">270</td> <td style="border: 1px solid black; padding: 5px;">81</td> </tr> </tbody> </table> <p style="font-size: small;">14,000 2,100 630 1,800 270 81 + _____ 18,881</p>	hundreds	tens	ones			200	30	9			14,000	2,100	630	tens 70	ones 9	1,800	270	81	<p>(9) $333 \times 96 = 31,968$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">300</td> <td style="text-align: center; font-size: large;">30</td> <td style="text-align: center; font-size: large;">3</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">27,000</td> <td style="border: 1px solid black; padding: 5px;">2,700</td> <td style="border: 1px solid black; padding: 5px;">270</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 90</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 6</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">1,800</td> <td style="border: 1px solid black; padding: 5px;">180</td> <td style="border: 1px solid black; padding: 5px;">18</td> </tr> </tbody> </table> <p style="font-size: small;">27,000 2,700 270 1,800 180 18 + _____ 31,968</p>	hundreds	tens	ones			300	30	3			27,000	2,700	270	tens 90	ones 6	1,800	180	18
hundreds	tens	ones																																																						
200	60	5																																																						
8,000	2,400	200	tens 40	ones 4																																																				
800	240	20																																																						
hundreds	tens	ones																																																						
200	30	9																																																						
14,000	2,100	630	tens 70	ones 9																																																				
1,800	270	81																																																						
hundreds	tens	ones																																																						
300	30	3																																																						
27,000	2,700	270	tens 90	ones 6																																																				
1,800	180	18																																																						
<p>(10) $711 \times 20 = 14,220$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">700</td> <td style="text-align: center; font-size: large;">10</td> <td style="text-align: center; font-size: large;">1</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">14,000</td> <td style="border: 1px solid black; padding: 5px;">200</td> <td style="border: 1px solid black; padding: 5px;">20</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 20</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 0</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">0</td> </tr> </tbody> </table> <p style="font-size: small;">14,000 200 20 0 0 0 + _____ 14,220</p>	hundreds	tens	ones			700	10	1			14,000	200	20	tens 20	ones 0	0	0	0	<p>(11) $575 \times 41 = 23,575$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">500</td> <td style="text-align: center; font-size: large;">70</td> <td style="text-align: center; font-size: large;">5</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">20,000</td> <td style="border: 1px solid black; padding: 5px;">2,800</td> <td style="border: 1px solid black; padding: 5px;">200</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 40</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 1</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">500</td> <td style="border: 1px solid black; padding: 5px;">70</td> <td style="border: 1px solid black; padding: 5px;">5</td> </tr> </tbody> </table> <p style="font-size: small;">20,000 2,800 200 500 70 5 + _____ 23,575</p>	hundreds	tens	ones			500	70	5			20,000	2,800	200	tens 40	ones 1	500	70	5	<p>(12) $367 \times 53 = 19,451$</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; font-size: small;">hundreds</th> <th style="text-align: center; font-size: small;">tens</th> <th style="text-align: center; font-size: small;">ones</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; font-size: large;">300</td> <td style="text-align: center; font-size: large;">60</td> <td style="text-align: center; font-size: large;">7</td> <td colspan="2"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">15,000</td> <td style="border: 1px solid black; padding: 5px;">3,000</td> <td style="border: 1px solid black; padding: 5px;">350</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">tens 50</td> <td rowspan="2" style="border: none; padding-left: 10px; vertical-align: middle;">ones 3</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">900</td> <td style="border: 1px solid black; padding: 5px;">180</td> <td style="border: 1px solid black; padding: 5px;">21</td> </tr> </tbody> </table> <p style="font-size: small;">15,000 3,000 350 900 180 21 + _____ 19,451</p>	hundreds	tens	ones			300	60	7			15,000	3,000	350	tens 50	ones 3	900	180	21
hundreds	tens	ones																																																						
700	10	1																																																						
14,000	200	20	tens 20	ones 0																																																				
0	0	0																																																						
hundreds	tens	ones																																																						
500	70	5																																																						
20,000	2,800	200	tens 40	ones 1																																																				
500	70	5																																																						
hundreds	tens	ones																																																						
300	60	7																																																						
15,000	3,000	350	tens 50	ones 3																																																				
900	180	21																																																						