

Linear Algebra/ Linear Relations

More practice questions can be found on page 337-341, 348-351, 357-359, 376-379, 385-387, 392-393, 398-399

Specific Outcomes:

Throughout this unit, I learned that...

- I can graph and analyze two-variable linear relations.
- I can model and solve problems concretely, pictorially and symbolically, using linear equations of the form:
 - $ax=b$ $x/a=b$ ($a \neq 0$) $ax+b=c$ $x/a+b=c$ ($a \neq 0$) $a(x+b)=c$ where a,b, and c are integers

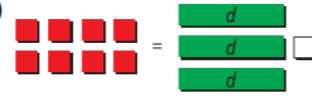
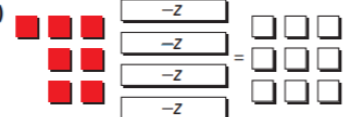
Key Ideas:

Write one key idea for each of the specific outcomes

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Practice Question:

Answer the following questions to practice your understanding of the unit

Level	Example 1	Example 2																
<p>Mild Basic Level 2</p>	<p>Complete the table</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">0</td> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">...</td> <td style="width: 20px;">10</td> <td style="width: 20px;">100</td> </tr> <tr> <td>4</td> <td></td> <td>8</td> <td>10</td> <td>...</td> <td></td> <td></td> </tr> </table>	0	1	2	3	...	10	100	4		8	10	...			<p>Solve each equation</p> <p>a) $-8x = 16$ b) $10x = -20$ c) $-5x = 10$ d) $36 = 18x$</p>		
0	1	2	3	...	10	100												
4		8	10	...														
<p>Medium Basic Level 2/3</p>	<p>Mara reads at a rate of 90 words per minute. a) Make a table of values that shows the total number of words Mara reads in one to six minutes. Use whole minutes.</p>	<p>Solve each equation. Verify your answer.</p> <p>a) $2 + m/3 = 18$ b) $(c/-8) - 8 = -12$ c) $16 = 9 + (b/-8)$ d) $-3 = (n/-7) + 19$</p>																
<p>Spicy Good Level 3</p>	<p>Graph the ordered pairs in the table. x y -2 0 1 2 4 4 7 6 b) Is it reasonable to assume there are points between the ones on your graph if you have no other information? Why?</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 20px;">x</th> <th style="width: 20px;">y</th> </tr> </thead> <tbody> <tr><td>-2</td><td>0</td></tr> <tr><td>1</td><td>2</td></tr> <tr><td>4</td><td>4</td></tr> <tr><td>7</td><td>6</td></tr> </tbody> </table>	x	y	-2	0	1	2	4	4	7	6	<p>Solve each equation represented by the algebra tiles. Verify your solution.</p> <p>a) </p> <p>b) </p>						
x	y																	
-2	0																	
1	2																	
4	4																	
7	6																	
<p>Extra Hot Excellent Level 4</p>	<p>Complete the table using the relationship "multiply x by 2 and then add 3 to get y." x -2 -1 0 1 2 3 11 y. Is it a linear relation? Explain.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 20px;">x</th> <td style="width: 20px;">-2</td> <td style="width: 20px;">-1</td> <td style="width: 20px;">0</td> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">11</td> </tr> <tr> <th style="width: 20px;">y</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </thead> </table>	x	-2	-1	0	1	2	3	11	y								<p>A computer rental company charges by the hour: \$5 for the first hour and \$4 for every hour after that. The fee rate can be modelled with the equation $4(n - 1) = T - 5$, where n is a number of hours greater than zero and T is the rental fee, in dollars. Candy's rental fee was \$17. For how many hours did she rent the computer?</p>
x	-2	-1	0	1	2	3	11											
y																		