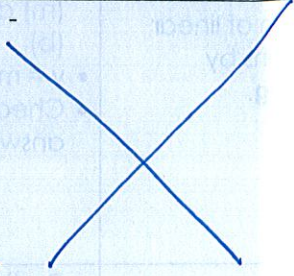
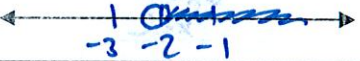
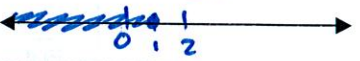
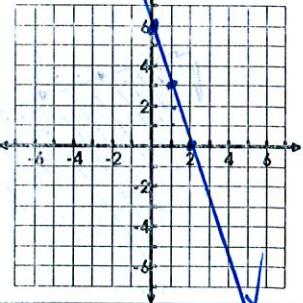
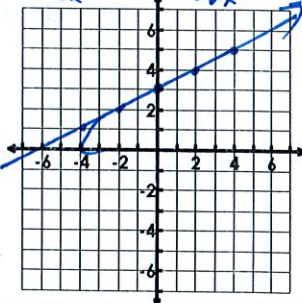
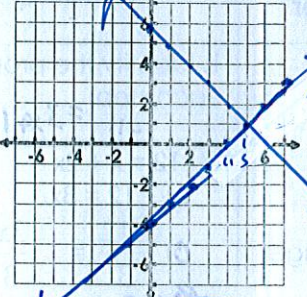
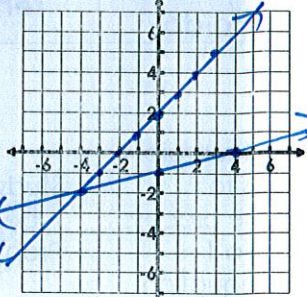
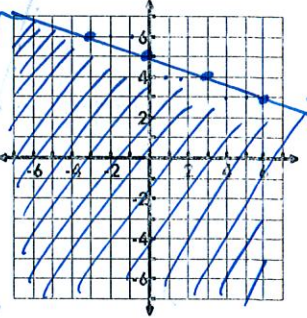
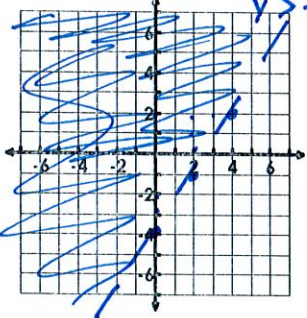


Study Guide

What you need to know & be able to do	Things to remember	Problem	Problem
Use the algebraic properties to explain the process of solving a 1-variable equation	<ul style="list-style-type: none"> <li>Study your Algebraic Properties page!</li> </ul>	1. Identify the property for each step: $-11 = 3x + 1$ a) $-11 - 1 = 3x + 1 - 1$ SUBTRACTION $-12 = 3x$ SUBSTITUTION b) $\frac{-12}{3} = \frac{3x}{3}$ DIVISION <del><math>-4 = x</math></del> SUBSTITUTION <del><math>x = -4</math></del>	
Solving a 1-variable equation	<ul style="list-style-type: none"> <li>Simplify each side by distributing and combining like terms</li> <li>Move all variables to one side</li> <li>Solve the resulting equation</li> </ul>	2. $1.2x + 20 = -4.8x - 4$ $+4.8x \quad +4.8x$ $6x + 20 = -4$ $-20 \quad -20$ $6x = -24$ $x = -4$	3. $-3(x-3) = x+91$ $-3x+3 = x+91$ $+3x \quad +3x$ $8 = 4x+91$ $-91 \quad -91$ $-83 = 4x$ $x = -20.75$
Solving a 1-variable inequality	<ul style="list-style-type: none"> <li>When you multiply or divide by a <b>negative</b>, <b>switch</b> the direction of the inequality</li> <li>Graph the inequality on a number line</li> </ul>	4. $-4x + 12 < 20$ $-12 \quad -12$ $-4x < 8$ $x > -2$ 	5. $-2(x-3) \geq 3x+1$ $-2x+6 \geq 3x+1$ $+2x \quad +2x$ $6 \geq 5x+1$ $-1 \quad -1$ $5 \geq 5x \rightarrow x \leq 1$ $12x$ 
Graph a linear equation	<ul style="list-style-type: none"> <li>Put in slope-intercept form to graph. <math>y = mx + b</math></li> </ul>	6. $y = -3x + 6$ 	7. $2x - 4y = -12$ $-4y = -2x - 12$ $\frac{-4y}{-4} = \frac{-2x-12}{-4}$ $y = \frac{1}{2}x + 3$ 
Solve Literal Equations	<ul style="list-style-type: none"> <li>Undo order of operations from bottom up</li> </ul>	8. $x = \frac{y+4}{3}$ Solve for y $3x = y + 4$ $-4 \quad -4$ $3x - 4 = y$	9. $\frac{D}{T} = RT$ Solve for R $\frac{D}{T} = R$



Study Guide

<p>Find the solution of a system of linear equations by <b>graphing</b>.</p>	<ul style="list-style-type: none"> <li>• Get "y" by itself.</li> <li>• Identify the slope (m) and the y-int (b)</li> <li>• <math>y = mx + b</math></li> <li>• Check your answer!</li> </ul>	<p>10. <math>y = x - 4</math>  <math>x + y = 6</math>  <math>y = -x + 6</math>  <math>(5, 1)</math></p> 	<p>11. <math>y = x + 2</math>  <math>y = \frac{1}{4}x - 1</math>  <math>(-4, -2)</math></p> 
<p>Find the solution of a system of linear equations by <b>elimination</b>.</p>	<ul style="list-style-type: none"> <li>• Decide which variable you want to get rid of.</li> <li>• Make sure the coefficients are opposite</li> <li>• Add the two equations.</li> <li>• Solve for the variable.</li> <li>• Substitute back into the original.</li> <li>• Check your answer!</li> </ul>	<p>12. <math>3x + 4y = 14</math>  <math>-3x + 2y = -2</math>  <math>6y = 12</math>  <math>y = 2</math>  <math>3x + 4(2) = 14</math>  <math>3x + 8 = 14</math>  <math>3x = 6</math>  <math>x = 2</math>  <math>(2, 2)</math></p>	<p>13. <math>6x - 3y = 21</math>  <math>3(-2x - 2y = -22)</math>  <math>6x - 3y = 21</math>  <math>-6x - 6y = -66</math>  <math>-9y = -45</math>  <math>y = 5</math>  <math>(6, 5)</math>  <math>6x - 3(5) = 21</math>  <math>6x - 15 = 21</math>  <math>6x = 36</math>  <math>x = 6</math></p>
		<p>14. <math>2x + y = 5</math>  <math>2(-x + y = -1)</math>  <math>2x + y = 5</math>  <math>-2x + 2y = -2</math>  <math>3y = 3</math>  <math>y = 1</math>  <math>2x + 1 = 5</math>  <math>2x = 4</math>  <math>x = 2</math>  <math>(2, 1)</math></p>	<p>15. <math>2x - 3y = 9</math>  <math>2x + 3y = 3</math>  <math>4x = 12</math>  <math>x = 3</math>  <math>2(3) - 3y = 9</math>  <math>6 - 3y = 9</math>  <math>-3y = 3</math>  <math>y = -1</math>  <math>(3, -1)</math></p>
<p>Graph a linear inequality</p>	<ul style="list-style-type: none"> <li>• Put in slope-intercept form to graph. <math>y = mx + b</math></li> <li>• Test a point to figure out which side to shade</li> <li>• Use a solid line for inequalities WITH equal signs; dotted line for inequalities WITHOUT equal signs.</li> </ul>	<p>16. <math>y \leq -\frac{1}{3}x + 5</math></p> 	<p>17. <math>3x - 2y &lt; 8</math>  <math>-2y &lt; -3x + 8</math>  <math>y &gt; \frac{3}{2}x - 4</math></p> 
<p>Solving a systems of equations word problem</p>	<ul style="list-style-type: none"> <li>• Define variables</li> <li>• Set up equations</li> <li>• Solve using elimination</li> </ul>	<p>18. Joe bought a total of 20 hamburgers and hot dogs for \$90. Hamburgers cost \$5.25 each and hot dogs cost \$2.75 each. How many hamburgers and hotdogs did Joe buy?</p>	<p><math>x + y = 20</math>  <math>5.25x + 2.75y = 90</math>  <math>x = 14</math> 14 HAMBURGERS  <math>y = 6</math> AND 6 HOT DOGS</p>