

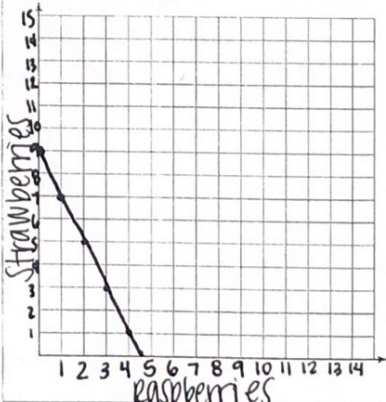
Name: Key

Date: \_\_\_\_\_

Unit 1 Study Guide

Use the following to review for you test. Work the Practice Problems on a separate sheet of paper.

What you need to know & be able to do	Things to remember		
1. Unit Conversions		1. Convert 1500dm to hm.  <b>1.5hm</b>	2. A bowl of cereal weighs 60 g. Is that more or less than 1 kg?  <b>LESS</b>
<ul style="list-style-type: none"> <li>• 5280 feet = 1 mi</li> <li>• 1.6 km = 1 mi</li> <li>• 0.034 ounces = 1 mL</li> <li>• 1.05 qts = 1 L</li> <li>• 4 qts = 1 gal</li> <li>• 0.454 kg = 1lb</li> <li>• 16 ounces = 1 lb</li> </ul>		3. Convert 12 kilometers to inches.  <b>475,200 in</b>	4. Convert 8 gal to Liters.  <b>30.48 L</b>
2. Identify Vocabulary	<ul style="list-style-type: none"> <li>• # of terms</li> <li>• Coefficients</li> <li>• Factors</li> <li>• Constants</li> </ul>	5. How many terms are in the expression $12x^3 + 7x^2 - 4x - 19$ ?  <b>4</b>	6. What are the coefficients and constants in the expression $20x^4 - 11x + 3$ ?  <b>20 and -11</b>
3. Solving Equations in one Variable	<ul style="list-style-type: none"> <li>• Isolate the variable</li> <li>• Distribute, Combine Like Terms, Add/Subtract, Multiply/ Divide</li> </ul>	7. $2x - 6 = -3(5 - x)$  <b>x=9</b>	8. $\frac{x}{5} = \frac{8}{20}$  <b>x=2</b>
4. Solve for an indicated variable	<p>PEMDAS</p> <ul style="list-style-type: none"> <li>• Backwards, from the ground up!</li> </ul>	9. Solve for x: $y = -4x + 16$  <b><math>x = -\frac{1}{4}y + 4</math> or <math>x = -\frac{y}{4} + 4</math></b>	10. Solve for L: $P = 2(L + W)$  <b><math>L = \frac{P}{2} - W</math></b>
5. Linear Models	<p><math>y = mx + b</math></p> <ul style="list-style-type: none"> <li>• m – increase or decrease</li> <li>• b – starting point</li> </ul>	11. Lucy gets paid \$150 a week and \$10 for every computer she sells. Write an expression that represents her weekly income.  <b><math>y = 10x + 150</math></b>	12. Andy wants to mail a package. It costs \$4.99 plus \$0.30 for every ounce the package weighs. Write an equation that represents the total cost of shipping the package.  <b><math>y = .30x + 4.99</math></b>

<p>6. Consecutive Integers</p>	<p>Start with x.  <math>x + (x+1) + (x+2) + \dots =</math></p>	<p>13. 3 consecutive integers add up to 153. Find the three integers.</p>	<p>14. Three odd integers add up to 381. Find the integers.</p>
<p>7. Averages</p>	<ul style="list-style-type: none"> <li>• Add the values and x</li> <li>• Divide by the number of numbers</li> <li>• Set equal to the average</li> <li>• Solve for x</li> </ul>	<p>15. You are trying to save \$20 a week to buy a new CD player. During the last 4 weeks you have saved \$35, \$15, \$10, and \$12. How much do you need to save this week to average \$20 for the 5 weeks?</p>	<p>16. Currently, you have made a 78, 83, and an 80 on your tests in math. What do you need to make on the next test in order to get an average of an 82?</p>
<p>8. Rectangle - Find length and width</p>	<ul style="list-style-type: none"> <li>• Draw a picture</li> <li>• Define your <math>l</math> and <math>w</math></li> <li>• Add all 4 sides</li> <li>• Solve for both variables</li> </ul>	<p>17. The width of a rectangle is 11 feet longer than the length. The perimeter of the rectangle is 70 feet. Find the length and the width.</p>	<p>18. The length of a rectangle is nine inches more than the width. The perimeter is 34 inches. Find the length.</p>
<p>9. Solve for 2-variable Equations</p>	<p><math>ax + by = c</math></p> <ul style="list-style-type: none"> <li>• Never move the variable you're solving for.</li> </ul>	<p>19. Tony is going to buy fruit for a smoothie. He wants raspberries, <math>r</math>, that are \$4 a carton and strawberries, <math>s</math>, that are \$2 a carton. Write an equation to represent all the combinations of fruit if Tony has \$18 to spend.</p> <p>20. Using your equation from #19, solve for <math>s</math>, in terms of <math>r</math>, the number of raspberries. Then graph.</p>	 <p>21. If he buys 2 cartons of raspberries, how many strawberries can he buy?</p>

60, 61, 62

125, 127, 129

\$28

87

W: 23 ft  
L: 12 ft

W: 13 in  
L: 4 in

$4r + 2s = 18$

$s = -2r + 9$

5 cartons