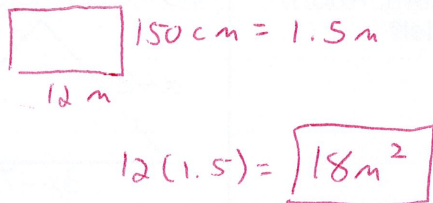
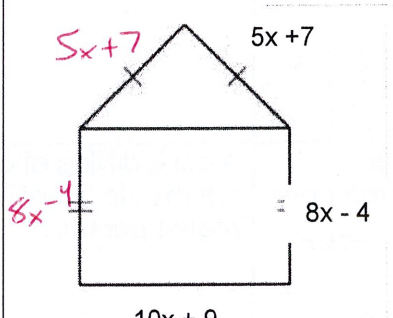
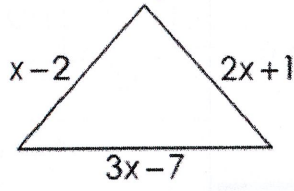
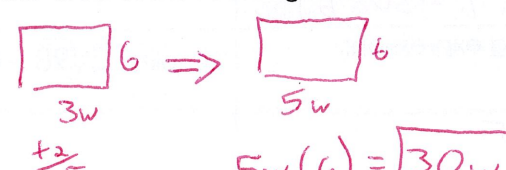


Name: Guide

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

Unit 1 Remediation

Skill Set	In Class Example	You Try
<p>1. Unit Conversions</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <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> </div>	<p>A rectangle has a length of 150 centimeters and a width of 12 meters. What is the area of the rectangle in meters?</p>  <p>150 cm = 1.5 m</p> <p><math>12(1.5) = 18 \text{ m}^2</math></p> <p>If a runner's speed is 20 feet per second, what is their speed in miles per hour? <i>ft → miles; Sec → min → hr</i></p> $\frac{20 \text{ ft}}{1 \text{ sec}} \cdot \frac{1 \text{ mi}}{5280 \text{ ft}} \cdot \frac{60 \text{ sec}}{1 \text{ min}} \cdot \frac{60 \text{ min}}{1 \text{ hr}} =$ $\frac{72000}{5280} = 13.64 \frac{\text{mi}}{\text{hr}}$	<p>Tara has a rectangular garden. The length is 10 meters and the width is 1.2 dm. What is the perimeter of her garden?</p> <p>A car is driving at a rate of 3 kilometers per minute. What is the car's speed in meters per hour?</p>
<p>2. Irrational Numbers</p>	<p>If you simplified <math>3(6 + \sqrt{2})</math>, would the answer be rational or irrational? Why?</p> <p><math>18 + 3\sqrt{2}</math> is irrational because <math>\sqrt{2}</math> isn't a perfect square. Rational + irrational equals irrational.</p> <p>Simplify the following expression:</p> $\sqrt{6a^5} \cdot 5\sqrt{12b^2}$ $5\sqrt{72a^5b^2}$ $5 \cdot \sqrt{36} \cdot \sqrt{2} \cdot \sqrt{a^4} \cdot \sqrt{a} \cdot \sqrt{b^2}$ $5 \cdot 6 \cdot \sqrt{2} \cdot a^2 \cdot \sqrt{a} \cdot b = \sqrt{30a^2b} \sqrt{2a}$ <p>Simplify the following expression:</p> $9\sqrt{18} - 3\sqrt{50}$ $9 \cdot \sqrt{9} \cdot \sqrt{2} - 3\sqrt{25} \cdot \sqrt{2}$ $9 \cdot 3 \cdot \sqrt{2} - 3 \cdot 5 \cdot \sqrt{2}$ $27\sqrt{2} - 15\sqrt{2}$ $\boxed{12\sqrt{2}}$	<p>If you simplified <math>5\sqrt{3}(7 + \sqrt{3})</math>, would the answer be rational or irrational? Why?</p> <p>Simplify: <math>\sqrt{20xy^2} \cdot \sqrt{35xy^3}</math></p> <p>Simplify: <math>3\sqrt{98} - 6\sqrt{18}</math></p>

	<p>The expression <math>s^2</math> is used to calculate the area of a square, where <math>s</math> is the side length of the square. If you are told the area of the square is <math>(3r)^2</math>, then how long is one side of the square?</p> $\sqrt{(3r)^2} = 3r$	<p>The area of a rectangle is <math>lw</math>, where <math>l</math> is the length of the rectangle and <math>w</math> is the width. If you are told that the area of the rectangle is <math>5(x+2)</math>. What does the <math>(x+2)</math> represent?</p>
<p>3. Area and Perimeter</p>	<p>A model of a house is shown. What is the <b>perimeter</b> of the model?</p>  $5x+7 + 5x+7 + 8x-4 + 10x+9 + 8x-4$ $36x+15$	<p>Find the perimeter:</p> 
	<p>Simplify the expression <math>(x-4)^2</math></p> $(x-4)(x-4)$ $x^2 - 4x - 4x + 16$ $x^2 - 8x + 16$	<p>Simplify the expression <math>(x+9)^2</math></p>
<p>4. Multiplication</p>	<p>The length of a rectangle is 6 inches. The width is <math>3w</math> inches.</p> <p>If the coefficient of the width increases by 2, what could be an expression for the area of the rectangle?</p> 	<p>The width of a rectangle is 8 inches. The length is <math>5x</math> inches.</p> <p>If the coefficient of the length decreases by 3, what could be an expression for the area of the rectangle?</p>