

Unit: 4C	Test Review
<p>1. <math>\sqrt{x} = \frac{1}{9}</math> <math>x = \frac{1}{81}</math></p> <p>Answer check <math>\sqrt{\frac{1}{81}} = \frac{1}{9}</math> ✓</p>	<p>2. <math>\sqrt[3]{4x+11} = 5</math> <math>\sqrt[3]{4x} = -6</math> <math>4x = -216</math> <math>x = -54</math></p> <p>Answer check <math>\sqrt[3]{4(-54)} + 11 = 5</math> <math>5 = 5</math> ✓</p>
<p>3. <math>\sqrt{5x+3} - \sqrt{4x} = 0</math> <math>\sqrt{5x+3} = \sqrt{4x}</math> <math>5x+3 = 4x</math> <math>3 = -x</math> <math>-3 = x</math></p> <p>Answer check <math>\sqrt{5(-3)+3} - \sqrt{4(-3)} = 0</math> Domain Error No Solution</p>	<p>4. <math>\sqrt{4x+15} - 3\sqrt{x} = 0</math> <math>\sqrt{4x+15} = 3\sqrt{x}</math> <math>4x+15 = 9x</math> <math>15 = 5x</math> <math>3 = x</math></p> <p>Answer check <math>\sqrt{4(3)+15} - 3\sqrt{3} = 0</math> ✓</p>
<p>5. The voltage <math>V</math> required for a circuit is given by <math>v = \sqrt{PR}</math>, where <math>P</math> is the power in watts and <math>R</math> is the resistance in ohms. How many more volts are needed to light a 125-watt light bulb than a 75-watt light bulb if the resistance of both is 110 ohms?</p> <p><math>V = \sqrt{(125)(110)} = 117.26</math> and <math>V = \sqrt{75(110)} = 90</math> ← find the difference 26.43</p>	
<p>6. The time <math>T</math> in seconds that it takes a pendulum to make a complete swing back and forth is given by the formula <math>T = 2\pi\sqrt{\frac{L}{g}}</math>, where <math>L</math> is the length of the pendulum in feet and <math>g</math> is the acceleration due to gravity, 32 feet per second squared. A clockmaker wants to build a pendulum that takes 3 seconds to swing back and forth. How long should the pendulum be?</p> <p><math>3 = 2\pi\sqrt{\frac{L}{32}}</math> <math>\frac{3}{2\pi} = \sqrt{\frac{L}{32}}</math> <math>0.477 = \sqrt{\frac{L}{32}}</math> <math>0.227 = \frac{L}{32}</math> <math>7.295 = L</math> <math>7.295 \text{ ft.}</math></p>	
<p>7. Identify the domain, x-intercept, and y-intercept. Round answers to the nearest tenth. Then use the information to graph the function.</p> <p><math>f(x) = \sqrt{x+2}</math> D: <math>[-2, +\infty)</math> R: <math>[0, +\infty)</math></p> <p>x-I: <math>0 = \sqrt{x+2}</math> <math>0 = x+2</math> <math>-2 = x</math> <math>(-2, 0)</math></p> <p>y-I: <math>y = \sqrt{0+2}</math> <math>y = 2</math> <math>(0, 2)</math></p>	<p>8. Identify the domain, x-intercept, and y-intercept. Round answers to the nearest tenth. Then use the information to graph the function.</p> <p><math>f(x) = 2 + \sqrt{x-1}</math> D: <math>[1, +\infty)</math> R: <math>[2, +\infty)</math></p> <p>x-I: <math>0 = 2 + \sqrt{x-1}</math> <math>-2 = \sqrt{x-1}</math> <math>4 = x-1</math> <math>5 = x</math> Check Answer! No Solution!</p> <p>y-I: <math>y = 2 + \sqrt{0-1}</math> <math>y = 2 + \sqrt{-1}</math> check your answer No Solution!</p>
<p>9. Write a radical function that has been shifted 4 units down and 3 units right from the origin.</p> <p><math>y = \sqrt{x-h} + k</math> <math>y = \sqrt{x-3} - 4</math></p>	