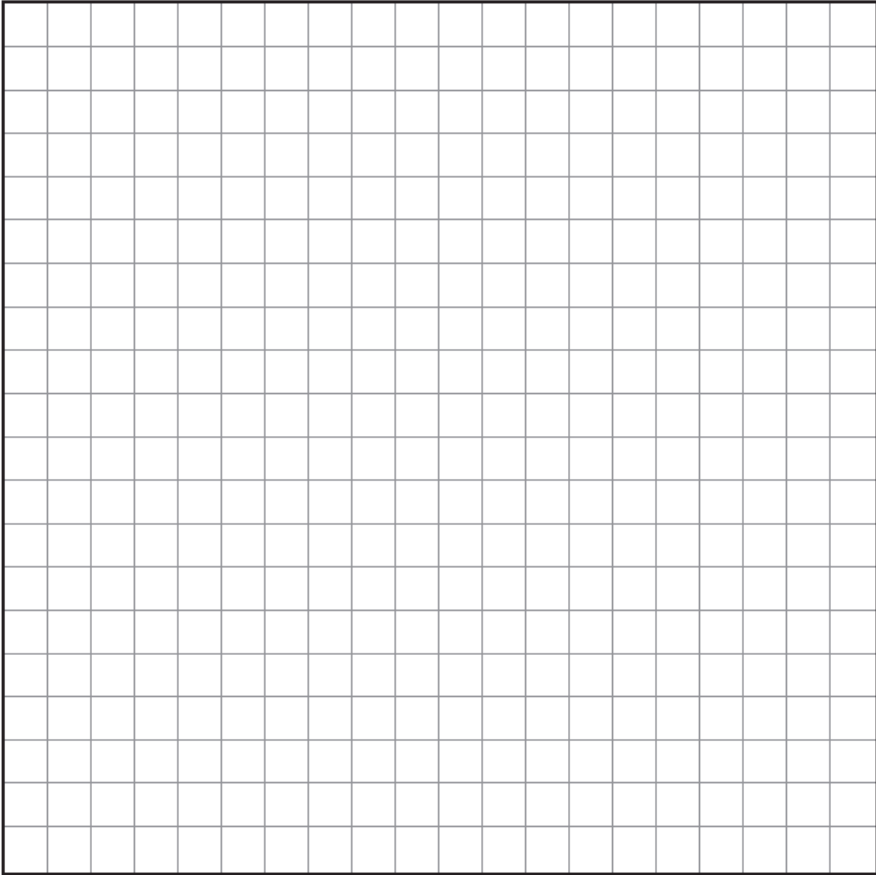


<p>1. If $f(x) = 2x^2 - 5x^6$ and $g(x) = \sqrt{x}$, find $(f \circ g)(x)$ in simplest form.</p>	<p>2. Solve algebraically for x: $8^{2x} = 4^6$</p>	<p>1. _____</p> <p>2. _____</p>
<p>3. In physics class, Taras discovers that the behavior of electrical power, x, in a particular circuit can be represented by the function $f(x) = x^2 + 2x + 7$. If $f(x) = 0$, solve the equation and express your answer in simplest $a + bi$ form.</p>		<p>3. _____</p>
<p>4. The time it takes to travel to a location varies inversely to the speed traveled. It takes 4 hours driving at an average speed of 55 miles per hour to reach a location. To the <i>nearest tenth of an hour</i>, how long will it take to reach the same location driving at an average speed of 50 miles per hour?</p>		<p>4. _____</p>
<p>5. When simplified, the expression $(\sqrt[3]{m^4})(m^{-\frac{1}{2}})$ is equivalent to</p> <p>(1) $\sqrt[3]{m^{-2}}$ (3) $\sqrt[5]{m^{-4}}$</p> <p>(2) $\sqrt[4]{m^3}$ (4) $\sqrt[6]{m^5}$</p>	<p>6. Solve algebraically for x: $27^{x+2} = 9^{2x-1}$</p>	<p>5. _____</p> <p>6. _____</p>
<p>7. A rectangular prism has a length of $\frac{2x^2 + 2x - 24}{4x^2 + x}$, a width of $\frac{x^2 + x - 6}{x + 4}$, and a height of $\frac{8x^2 + 2x}{x^2 - 9}$. For all values of x for which it is defined, express, in terms of x, the volume of the prism in simplest form.</p>		<p>7. _____</p>

<p>8. The equation $y = a^x$ defines an exponential function when a equals</p> <p>(1) 1 (3) 0 (2) 2 (4) -1</p>	<p>9. If $b > 0$, then the graph of $y = b^x$ must contain point</p> <p>(1) (-1,0) (3) (0,1) (2) (1,0) (4) (0,0)</p>
<p>10. Which of the following is <i>not</i> in the domain of $y = 2^x$?</p> <p>(1) 1 (2) -2 (3) 3 (4) They are all in the domain.</p>	<p>11. If $f(x) = \left(\frac{1}{2}\right)^{x-5}$ and $g(x) = x^{\frac{2}{3}}$, find $(f \circ g)(27)$.</p>
<p>12. On the accompanying grid, sketch the graph of $y = \left(\frac{1}{4}\right)^x$ in the interval $-2 \leq x \leq 2$. Then, on the same set of axes, sketch the graph of $y = x + 5$. Use your calculator to graph the functions and find the value of x that would satisfy the equation $\left(\frac{1}{4}\right)^x = x + 5$.</p> 	

8. _____
9. _____
10. _____
11. _____
12. _____