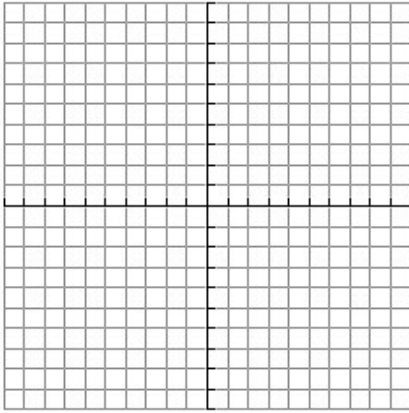
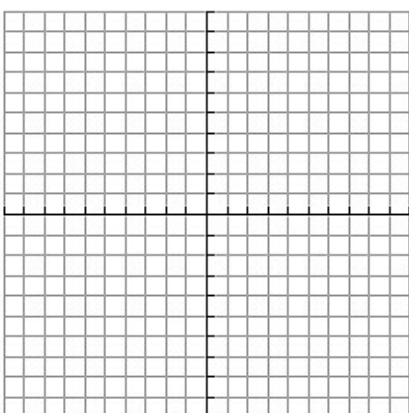


Exponential Functions Unit Review

Skill	Things to remember	Examples													
<p>1. Determine if representations are exponential. Explain why or why not</p>	<p>Exponential Functions: -Variable in exponent -Constant Ratios -Graph is a curve</p> <p>Linear Functions: -Constant differences -Graph is a line</p>	<p>a. Determine if the points are exponential or linear: a.</p> <table border="1" data-bbox="656 363 1089 428"> <tr> <td>x</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> </tr> <tr> <td>y</td> <td>0.16</td> <td>0.8</td> <td>4</td> <td>20</td> <td>100</td> </tr> </table> <p>b. (-2, 5) (-1, 4) (0, 3) (1, 2) (2, 1)</p>	x	-3	-2	-1	0	1	y	0.16	0.8	4	20	100	<p>b. Determine if the equations are linear or exponential:</p> <p>a. $y = 3^x - 4$</p> <p>b. $y = 2^2$</p> <p>c. $y = 6^{2x}$</p>
x	-3	-2	-1	0	1										
y	0.16	0.8	4	20	100										
<p>2. Determine if a function is exponential growth or decay and explain why.</p>	<p>$0 < b < 1$: Decay $b > 1$: Growth</p>	<p>a. $y = .75\left(\frac{3}{2}\right)^x$</p> <p>c. What is the function growing by? $Y = 3(2)^x$</p>	<p>b. $y = \left(\frac{1}{2}\right)^x$</p> <p>d. What is constant ratio? $Y = 3(4.5)^x$</p>												
<p>3. Graph an exponential function.</p>	<p>$y = ab^x$</p> <p>Create a table with values (5 points is a must)</p>	<p>a. Graph: $f(x) = \left(\frac{1}{2}\right)^x$</p> 	<p>b. Graph: $f(x) = 3 \cdot 2^{x-1} + 1$</p> 												
<p>4. Describe the transformations of an exponential function.</p>	<p>$f(x) = a(b)^{x-h} + k$</p> <p>a stretches or shrinks AND/OR reflects</p> <p>k moves the function up and down.</p> <p>h moves the function left and right.</p> <p>The new asymptote is the line $y = k$.</p>	<p>a. Given the function $f(x) = 2^x$ write a new equation after a transformation of left 7 and up 3.</p> <p>c. Describe the transformation $h(x) = 10^x$ to $k(x) = 4(10)^{x+1} - 5$.</p>	<p>b. Given the function $g(x) = 2^x$, write a new equation after a transformation of right 9 and reflect across the x-axis.</p> <p>d. Describe the transformation from $a(x)$ to $b(x)$.</p> 