

Unit 7: Exponential & Logarithmic Functions

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Sum of a finite geometric series (A.SSE.4)	<p>Can extend thinking beyond the standard, including tasks that may involve one of the following:</p> <ul style="list-style-type: none"> • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving 	Use the finite and infinite formulas for geometric series to <u>solve real-world problems</u>	Use the finite and infinite formulas for geometric series to find: <ul style="list-style-type: none"> • Sum • <u>First tem</u> • <u>Last term</u> • <u>Rate</u> 	<u>Find the sum</u> , using the finite and infinite formulas, for geometric series	<p>Little evidence of reasoning or application to solve the problem</p> <p>Does not meet the criteria in a level 1</p>
Create rational equations and inequalities (A.CED.1)		Create a polynomial equation in <u>expanded form</u> given the zeros, multiplicity, and leading coefficient	Create a polynomial equation in factored form given the zeros, <u>multiplicity, and leading coefficient</u>	Create a polynomial equation in <u>factored form given the zeros</u>	
Graph equations (A.CED.2)		Create and graph a system of inequalities for contextual situations	<u>Create and graph</u> a system of inequalities for contextual situations	<u>Identify a system of inequalities</u> for contextual situations	
Solve systems of equations(A.REI.11)		For rational functions find intersection points using technology, graphs, and tables and <u>explain in the context of a situation</u>	For rational functions find intersection points using technology, graphs, <u>and</u> tables	For rational functions find intersection points using technology, graphs <u>or</u> tables	
Graph exponential and logarithmic functions; key features(F.IF.7e)		Graph trigonometric functions and interpret all related key features of a graph <u>in context of a real world situation</u> <ul style="list-style-type: none"> • Asymptotes • Period • Midline • amplitude 	<u>Graph</u> trigonometric functions and identify all related key features of a graph <ul style="list-style-type: none"> • asymptotes • period • midline • amplitude 	Given the graph or equation of trigonometric functions, identify all related key features of a graph <ul style="list-style-type: none"> • asymptotes • period • midline • amplitude 	
Express exponentials as logarithms (F.LE.4) Inverse of a function(F.BF.4a) (F.BF.5)		Recognize that exponential and logarithmic functions are inverses of each other and use these functions to solve <u>real-world problems</u> .	Recognize that exponential and logarithmic functions are inverses of each other <u>and use these functions to solve logarithmic and exponential equations</u> .	<u>Rewrite logarithmic and exponential functions as inverses</u>	
Average rate of change (F.IF.6)		Calculate the average rate of change over a given interval <u>and explain the meaning in context</u> .	<u>Calculate</u> the average rate of change over a given interval	<u>Describe</u> the average rate of change over a given interval	
Compare functions from different representations (F.IF.9)		Compare key features of two functions represented <ul style="list-style-type: none"> • algebraically • graphically • numerically in tables • verbal descriptions Key features include: <ul style="list-style-type: none"> • intercepts • domain/range • increasing or decreasing • <u>positive or negative</u> • <u>symmetries</u> • <u>end behavior</u> 	Compare key features of two functions represented <ul style="list-style-type: none"> • algebraically • graphically • numerically in tables • verbal descriptions Key features include: <ul style="list-style-type: none"> • intercepts • domain/range • <u>increasing or decreasing</u> 	Compare key features of two functions represented <ul style="list-style-type: none"> • algebraically • graphically • numerically in tables • verbal descriptions Key features include: <ul style="list-style-type: none"> • intercepts • domain/range 	

<p>Transformations using k (F.BF.3)</p>	<p>Identify the effect on a graph by replacing $f(x)$ with <u>more than two</u> transformations: $f(x) + k$, $a f(x)$, $f(bx)$, $f(x + h)$ for specific positive and negative values of the constants a, b, h, and k</p> <p>Write a function given <u>more than two transformations.</u></p>	<p>Identify the effect on a graph by replacing $f(x)$ with <u>two</u> transformations: $f(x) + k$, $a f(x)$, $f(bx)$, $f(x + h)$ for specific positive and negative values of the constants a, b, h, and k</p> <p>Write a function given <u>two transformations.</u></p>	<p>Identify the effect on a graph by replacing $f(x)$ with a <u>single</u> transformation: $f(x) + k$, $a f(x)$, $f(bx)$, $f(x + h)$ for specific positive and negative values of the constants a, b, h, and k</p> <p>Write a function given <u>a transformation.</u></p>
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