



# Gulfport School District

## *HIGH SCHOOL PACING GUIDE*

### **PRE-CALCULUS**

QTR	COMPETENCY/OBJECTIVES
<b>NUMBER AND OPERATIONS</b>	
	<b>1. Explore and illustrate the characteristics and operations connecting sequences and series.</b>
2.1	a. Express sequences and series using recursive and explicit formulas. (DOK 2)
2.1	b. Evaluate and apply formulas for arithmetic and geometric sequences and series. (DOK 2)
2.2	c. Calculate limits based on convergent and divergent series. (DOK 2)
2.1	d. Evaluate and apply infinite geometric series. (DOK 2)
<b>ALGEBRA</b>	
	<b>2. Analyze, manipulate, and solve equations and inequalities.</b>
2.2	a. Determine characteristics of graphs of parent functions (domain/range, increasing/decreasing intervals, intercepts, symmetry, end behavior, and asymptotic behavior). (DOK 2)
2.2	b. Determine horizontal, vertical, and slant asymptotes and holes of rational functions and explain how each was found. (DOK 2)
2.1	c. Determine the domain and range of functions, including piece-wise functions.(DOK 2)
2.2	d. Determine the end behavior of polynomial functions. (DOK 2)
2.2	e. Decompose composite functions into component functions. (DOK 2)
2.2	f. Solve exponential and logarithmic equations to include real-world applications. (DOK 2)
2.2	g. Find the possible rational roots using the Rational Root Theorem. (DOK 1)
2.2	h. Find the zeros of polynomial functions by synthetic division and the Factor Theorem. (DOK 1)
2.1	i. Graph and solve quadratic inequalities. (DOK 2)
2.2	j. Decompose a rational function into partial fractions. (DOK 2)
<b>GEOMETRY</b>	
	<b>3. Recognize, sketch, and transform graphs of functions.</b>
2.2	a. Describe the attributes of graphs and the general equations of parent functions (linear, quadratic, cubic, absolute value, rational, exponential, logarithmic, square root, cube root, and greatest integer). (DOK 1)
2.1	b. Explain the effects of changing the parameters in transformations of functions. (DOK2)
2.2	c. Predict the shapes of graphs of exponential, logarithmic, rational, and piece-wise functions, and verify the prediction with and without technology. (DOK 2)
2.1	d. Relate symmetry of the behavior of even and odd functions. (DOK 2)



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<b>DATA ANALYSIS and PROBABILITY</b>	
<b>4. Adapt curves to data.</b>	
2.2	a. Use regression methods available through technology to determine appropriate exponential and logarithmic functions that model real-life data. (DOK 3)
2.2	b. Use regression methods available through technology to determine appropriate cubic functions that model real-life data. (DOK 3)
<b>5. Explore and apply fundamental principles of probability.</b>	
2.2	a. Analyze expressions in summation and factorial notation to solve problems. (DOK 2)
2.2	b. Expand and apply the Binomial Theorem to problem-solving situations. (DOK 2)
<b>GSD OBJECTIVES</b>	
2.1	a. Compute with complex fractions using the four basic operations.
2.1	b. Simplify expressions with rational exponents.

1.1 indicates the first 4.5 weeks of the 9 weeks course.  
 1.2 indicates the second 4.5 weeks of the 9 weeks course.