MAGIC CITY ACCEPTANCE ACADEMY

** PreCalculus Pacing Guide Semester 1 **

Timeline	Unit/theme	Standard	Student Focused Objective	Resources/ Suggested Activities
2 wks		20. Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a clear-cut solution. Construct a viable argument to justify a solution method. Include equations that may involve linear, quadratic, polynomial,exponential, logarithmic, absolute value, radical, rational, piecewise, trigonometric functions, and their inverses.	• I can justify each step in solving a quadratic equation using the quadratic formula. • I can justify each step in solving a quadratic equation using the square root property. • I can justify each step in solving a quadratic equation using completing the square.	Misc. web sites and various worksheets.
2 wks		24. Compare and contrast families of functions and their representations (algebraically, graphically,	• I can find domain, range, x&y intercepts, intervals of increasing/decreasing and maximums/minimums. • I can determine symmetry(even, odd,	Misc. web sites and various worksheets.

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		numerically, and verbally in terms of their key features. Note: Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; maximums and minimums; symmetries (including even and odd); end behavior; asymptotes; and periodicity. Families of functions include but are not limited to linear, quadratic, polynomial, exponential, logarithmic, absolute value, radical, rational, piecewise, trigonometric, and their inverses.	neither), and end behavior of polynomial functions.	
3 wks		27. Compose functions. Extend to polynomial, trigonometric, radical, and rational functions. Example: If T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the	• I can combine polynomial functions (add, subtract, multiply, and divide) • I can compose polynomial functions.	Misc. web sites and various worksheets.

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		location of the weather balloon as a function of time.		
2 wks		28. Find inverse functions.	• I can write an expression for the inverse of a function.	Misc. web sites and various worksheets.
2 wks		30. Identify the effect on the graph of replacing $f(x)$ by $f(x)+k, k \cdot f(x)$, $f(k \cdot x)$, and $f(x+k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Extend the analysis to include all trigonometric, rational, and general piecewise-defined functions with and without technology. Example: Describe the sequence of transformations that will relate y=sin(x) and y=2sin(3x).	• I can identify the transformations of the parent function given a graph or an equation.	Misc. web sites and various worksheets.
3 wks		26. Graph functions expressed symbolically and show key features of the graph, by hand and using technology. Use the equation of functions to identify key features in order to generate a graph.	• I can graph basic parent functions using transformations. I can identify key characteristics of the functions (see standard 24 for key characteristics). I can graph piecewise functions. Consider teaching applications of piecewise functions.	Misc. web sites and various worksheets.

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2 wks		32. Solve application-based problems involving parametric and polar equations. a. Graph parametric and polar equations. b. Convert parametric and polar equations to rectangular form	• I can convert between polar and cartesian/rectangular coordinates. • I can solve application problems involving parametric and polar equations.	Misc. web sites and various worksheets.
1 week		19. Add, subtract, multiply, and divide rational expressions. a. Explain why rational expressions form a system analogous to the rational numbers, which is closed under addition, subtraction, multiplication, and division by a nonzero rational expression.	• I can add, subtract, multiply and divide rational expressions. • I can simplify complex fractions. I can find the domain of a rational expression.	Misc. web sites and various worksheets.
1 week		34. Define the radian measure of an angle as the constant of proportionality of the length of an arc it intercepts to the radius of the circle; in particular, it is the length of the arc intercepted on the unit circle. (Algebra II	• I can define the radian measure of an angle. • I can convert between degrees and radians.	Misc. web sites and various worksheets.

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