HPISD Curriculum: Algebra II

Title	Estimated Duration	6 Weeks					
Unit 15: Graphing and Solving Synthesis	1 week	1	2	3	4	5	**6**

Unit Overview

Graphing and solving polynomial, radical, rational, logarithmic, conic, absolute value and exponential equations and inequalities.

Enduring Understandings

The student will understand that:	• All the above mentioned equations and inequalities have similarities and differences with respect to solving and graphing. • Each equation has a specific shaped graph.

Concepts	Guiding/Essential Questions
relationships	• What does the parent graph look like for each equation? • How are the equations similar and how are the equations different? • Do transformations act differently in different kinds of equations? • What methods are used to solve each equation?

Learning Targets

- Students will graph each type of equation or inequality.
- Students will solve each type of equation or inequality.
- Students will recognize the difference between each parent equation and graph.

Formative Assessments	Summative Assessments
Quizzes and assignments	test

TEKS: Readiness Standards	TEKS: Related Supporting Standards
A2.1A Identify the mathematical domains and ranges o functions and determine reasonable domain and range values for continuous and discrete situations. **A2.4B** Extend parent functions with parameters such as a in f(x) = a/x and describe the effects of the parameter changes on the graph of parent functions.	**A2.4A** Identify and sketch graphs of parent functions, including: • linear (f (x) = x) • quadratic (f (x) = x^2), • exponential (f (x) = a^x) • logarithmic (f (x) = log ax) • absolute value of x (f (x) = |x|) • square root of x (f (x) =√x) • reciprocal _of x (f (x) = 1/x) **A2.2A** Use tools including factoring and properties of exponents to simplify expressions and to transform and solve equations.
Processes and Skills: **What students should be able to DO**	**Facts:** **What students should KNOW**
• Graph each type of equation or inequality • Solve each type of equation or inequality • Recognize the differences in the parent functions	• The parent function for a parabola is y = x^2 • The parent function for a radical is y = √x • The parent function for a rational is y = 1/x • A parent function for a logarithm is y = log x • A parent function for an exponential is y = a^x • The parent function for an absolute value is y = |x| • The parent function for a polynomial is y = $ax^n + bx^{n-1} + \ldots + zx^0$ • Each equation yields a unique graph
Topics	
Solving and graphing each equation and inequality.	

Language of Instruction	
synthesis	
State Assessment Connections	**National Assessment Connections**
Resources	
McDougal Littell – Algebra 2 Supplemental material	