

HPISD Curriculum: Pre Calculus Pre-AP

Title		Estimated Duration	6 Weeks					
Unit 12: Conics		14 days	1	2	3	4	5	6
Unit Overview								
Conic Sections								
Generalizations/Enduring Understandings								
The student will understand that:	<ul style="list-style-type: none"> • Conic Sections; circles, ellipses, hyperbolas, and parabolas are second degree equations. • Conic Sections can be used to solve a variety of real world problems. • Solutions to systems of conic sections can be found algebraically and geometrically. 							
Concepts	Guiding/Essential Questions							
<ul style="list-style-type: none"> • Conic Sections 	<ul style="list-style-type: none"> • How are the second degree equations of conic sections similar and different? • How can conic sections be used to solve real world problems? 							
Learning Targets								
<ul style="list-style-type: none"> • Students will be able to view a second degree equation and determine which conic section it represents. • Students will select the appropriate conic section and apply it to solve a real world problem. • Students will select algebraic or geometric techniques to solve a system of conic sections. 								
Formative Assessments					Summative Assessments			

TEKS:	Processes and Skills: What students should be able to DO	Facts: What students should KNOW
<p>Determine the conic section formed when a plane intersects a double-napped cone. P.3.F</p> <p>Make connections between the locus definition of conic sections and their equations in rectangular coordinates P.3.G</p> <p>Use the characteristics of an ellipse to write the equation of an ellipse with center (h,k). P.3.H</p> <p>Use the characteristics of a hyperbola to write the equation of a hyperbola with center (h,k). P.3.I</p>	<ul style="list-style-type: none"> • Interpret second degree equations to determine which conic section is represented, then put the equation in standard form. • Solve systems of conic sections algebraically and geometrically. • Determine the appropriate conic section to use in solving real world problems. 	<ul style="list-style-type: none"> • Some second degree equations can not be put into standard form because they represent a class of conics called degenerate conics. • Conic sections are the figures created by taking cross-sections of two cones, placed vertex to vertex.
Topics		
Conic Sections		
Language of Instruction		
<p>circles, ellipses, hyperbolas and parabolas</p> <p>degenerate conics</p> <p>second degree equations</p>		
State Assessment Connections		National Assessment Connections
Resources		