HPISD Curriculum: Geometry

Title	Estimated Duration	6 Weeks					
Unit 12: Equations of Circles	1 week	1	2	3	4	5	**6**

Unit Overview

Analyze geometric relationships in order to make and verify conjectures about circles

Enduring Understandings

The student will understand that:

- A circle can be graphed using the center and radius.
- To write an equation of a circle, the radius and the center of a circle must be known.
- The center-radius form of a circle can be found by completing the square.
- A system of equations containing a circle and a straight line may have one solution, two solutions, or no solutions.
- When taking the square root of x^2, x will have two possible values.

Concepts	Guiding/Essential Questions
• Relationships • Systems	• How is it justified, using domain and range, that a circle is or is not a function? • How can the radius of a circle be found given its center and an equation of a tangent line that is not vertical or horizontal? • Why is the process of completing the square important to changing the form of a circle? • How many solutions are possible for a system of two circles?

Learning Targets

- The student will write an equation of a circle.
- The student will identify the domain and range of a circle.
- The student will determine the equation of a circle given a variety of conditions.
- The student will write an equation of a circle in center-radius form given an equation in standard form.
- The student will find the intersection or intersections between lines and circles.

Formative Assessments	Summative Assessments
homework, quizzes	test

TEKS: Readiness Standards	TEKS: Related Supporting Standards
	G.9C Formulate and test conjectures about the properties and attributes of circles and the lines that intersect them based on explorations and concrete models.
Processes and Skills: What students should be able to DO	**Facts:** What students should KNOW
need verb lead-in	critical factual knowledge, no verb lead-ins

Topics		
Equations of Circles	Completing the Square	Points of Intersection

Language of Instruction		
Center-Radius Equation of a Circle	Domain	Standard Equation of a Circle
Complete the Square	Range	

State Assessment Connections	National Assessment Connections

Resources
Glencoe: Geometry 10.8