PCSD Lesson Planning Template

Grade Level 9th Algebra I		**Teacher/Room**: S. Pinson/Room 182		Week of: January 9-13, 2017

Unit Vocabulary: see attached

Instructional Strategies Used: direct instruction, independent study, interactive instruction, partners

Day 1	Day 2	Day 3	Day 4	Day 5
GSE/GPS Standard(s): **MGSE9-12.N.RN.2** Rewrite expressions involving radicals using the properties of exponents. (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).	**GSE/GPS Standard(s)**: MGSE9-12.N.RN.2 Rewrite expressions involving radicals using the properties of exponents. (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).	**GSE/GPS Standard(s)**: MGSE9-12.N.RN.2 Rewrite expressions involving radicals using the properties of exponents. (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).	**GSE/GPS Standard(s)**: **MGSE9-12.N.RN.2** Rewrite expressions involving radicals using the properties of exponents. (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).	**GSE/GPS Standard(s)**: **MGSE9-12.N.RN.2** Rewrite expressions involving radicals using the properties of exponents. (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).
EQ Question: How do I simplify radicals?	**EQ Question:** How can I use my knowledge of polynomial operations to simplify radical expressions?	**EQ Question:** How can I use my knowledge of polynomial operations to simplify radical expressions?	**EQ Question:** What domain restrictions must I remember in order to solve radical equations?	**EQ Question:** What domain restrictions must I remember in order to solve radical equations?

Mini Lesson: 24
 	
Activating Strategies: Make a chart of perfect squares, 1 - 20
 	
Lesson: Simplifying Square Roots
1. Guided notes on simplifying square roots
2. Guided practice – easy
3. Guided practice – a little more challenging
4. Assignment
 	
Resource/Materials: guided notes, worksheets
	Mini Lesson: computer lab
	
	Activating Strategies: Adding and subtracting polynomials, ppt on perfect squares
	Lesson: Operations with Square Roots
	1. Guided notes on
	  a. Adding/subtracting square roots
	2. Guided practice
	3. Assignment
	
	Resource/Materials: logins, worksheets
		Mini Lesson: Simplifying Radical Expressions Coloring WS
		
		Activating Strategies: Multiplying polynomials
		
		Lesson: Operations with Square Roots
		1. Quiz on simplifying and adding/subtracting square roots.
		2. Guided notes on
		  a. Multiplying square roots
		  b. Dividing square roots
		3. Guided practice
		4. Assignment
		
		Resource/Materials: quizzes, worksheets
			Mini Lesson: computer lab
			
			Activating Strategies: Solve an equation involving a square root.
			
			Lesson: Solving Radical Equations
			1. Guided notes on solving radical equations
			2. Guided practice
			3. Assignment
			
			Resource/Materials: guided notes, worksheets, logins
				Mini Lesson: 24
				
				Activating Strategies: Can you solve this radical equation?
				
				Lesson: Solving Radical Equations
				1. Quiz: Weekly Review
				2. More practice with solving radical equations
				3. Assignment - Classwork
				
				Resource/Materials: quizzes, guided notes, worksheets

Differentiation: *Content/Process/Product:* guided notes, guided practice *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* USATestPrep, guided notes, guided practice, ppt on perfect squares *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* guided notes, guided practice *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* guided notes, USATestPrep, guided practice *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* guided practice *Grouping Strategy:* *Assessment:*
Assessment : *Formative:* thumbs up/down *Summative:*	**Assessment :** *Formative:* thumbs up/down *Summative:*	**Assessment :** *Formative:* thumbs up/down, quiz *Summative:*	**Assessment :** *Formative:* thumbs up/down *Summative:*	**Assessment :** *Formative:* quiz *Summative:*
Homework: worksheets (10-2)	**Homework:** worksheets (10-3)	**Homework:** worksheets (10-3)	**Homework:** worksheets (10-4)	**Homework:** none

- **Algebra**. The branch of mathematics that deals with relationships between numbers, utilizing letters and other symbols to represent specific sets of numbers, or to describe a pattern of relationships between numbers.

- **Arithmetic Sequence**. A sequence of numbers in which the difference between any two consecutive terms is the same.

- **Average Rate of Change**. The change in the value of a quantity by the elapsed time. For a function, this is the change in the y-value divided by the change in the x-value for two distinct points on the graph.

- **Coefficient**. A number multiplied by a variable in an algebraic expression.

- **Constant Rate of Change**. With respect to the variable x of a linear function y = f(x), the constant rate of change is the slope of its graph.

- **Continuous**. Describes a connected set of numbers, such as an interval.

- **Discrete**. A set with elements that are disconnected.

- **Domain**. The set of x-coordinates of the set of points on a graph; the set of x-coordinates of a given set of ordered pairs. The value that is the input in a function or relation.

- **End Behaviors**. The appearance of a graph as it is followed farther and farther in either direction.

- **Equation**. A number sentence that contains an equals symbol.

- **Explicit Formula**. A formula that allows direct computation of any term for a sequence $a_1, a_2, a_3, \ldots, a_n, \ldots$.

- **Expression**. Any mathematical calculation or formula combining numbers and/or variables using sums, differences, products, quotients including fractions, exponents, roots, logarithms, functions, or other mathematical operations.

- **Factor**. For any number x, the numbers that can be evenly divided into x are called factors of x. For example, the number 20 has the factors 1, 2, 4, 5, 10, and 20.

- **Inequality**. Any mathematical sentence that contains the symbols > (greater than), < (less than), ≤ (less than or equal to), or ≥ (greater than or equal to).

- **Interval Notation**. A notation representing an interval as a pair of numbers. The numbers are the endpoints of the interval. Parentheses and/or brackets are used to show whether the endpoints are excluded or included.

- **Linear Function**. A function with a constant rate of change and a straight line graph.

- **Linear Model**. A linear function representing real-world phenomena. The model also represents patterns found in graphs and/or data.

- **Ordered Pair**. A pair of numbers, (x, y), that indicate the position of a point on a Cartesian plane.

- **Parameter**. The independent variable or variables in a system of equations with more than one dependent variable.

- **Range**. The set of all possible outputs of a function.

- **Recursive Formula**. A formula that requires the computation of all previous terms to find the value of an.

- **Slope**. The ratio of the vertical and horizontal changes between two points on a surface or a line.

- **Substitution**. To replace one element of a mathematical equation or expression with another.

- **Term**. A value in a sequence--the first value in a sequence is the 1st term, the second value is the 2nd term, and so on; a term is also any of the monomials that make up a polynomial.

- **Variable**. A letter or symbol used to represent a number.

- **X-intercept**. The point where a line meets or crosses the x-axis

- **Y-intercept**. The point where a line meets or crosses the y-axis