PCSD Lesson Planning Template

Grade Level 9th Algebra I	**Teacher/Room**: S. Pinson/Room 182	Week of: January 2-6, 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.F.IF.7e Graph exponential, showing intercepts and end behavior.	**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: What information can be gleaned from the table of values and the graph of a relation?	**EQ Question:** How do I simplify radicals?	**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?
Inservice Day	**Mini Lesson:** computer lab

Activating Strategies: Anticipation guide, Graph a linear equation using a t-table.
Lesson: Graphing Square Root Functions
1. Notes on graphing square root functions using t-table
2. Guided practice (partners)
3. Assignment

Resource/Materials: logins, worksheets | **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
3. Assignment

Resource/Materials: guided notes, worksheets | **Mini Lesson:** computer lab

Activating Strategies: Operations with polynomials

Lesson: Operations with Square Roots
1. Guided notes on
   a. Adding/subtracting square roots
   b. Multiplying square roots
   c. Dividing square roots
2. Guided practice
3. Assignment

Resource/Materials: logins, worksheets | **Mini Lesson:** 24

Activating Strategies: Solve an equation involving a square root.

Lesson: Solving Radical Equations
1. Quiz: Weekly Review
2. Guided notes on solving radical equations
3. Guided practice
4. Assignment

Resource/Materials: quizzes, guided notes, worksheets |
| | **Differentiation:**
Content/Process/Product: USATestPrep
Grouping Strategy: partners
Assessment: random | **Differentiation:**
Content/Process/Product: guided notes
Grouping Strategy:
Assessment: | **Differentiation:**
Content/Process/Product: USATestPrep, guided notes
Grouping Strategy:
Assessment: | **Differentiation:**
Content/Process/Product: guided notes
Grouping Strategy:
Assessment: |
| | **Assessment :**
Formative: thumbs up/down
Summative: | **Assessment :**
Formative: thumbs up/down
Summative: | **Assessment :**
Formative: thumbs up/down
Summative: | **Assessment :**
Formative: quiz
Summative: |
| | **Homework:** worksheets (10-1) | **Homework:** worksheets (10-2) | **Homework:** worksheets (10-3) | **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