PCSD Lesson Planning Template

Grade Level 9th Algebra I	**Teacher/Room**: S. Pinson/Room 182		Week of: March 20-24, 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 Standard(s): **MGSE9–12.A.REI.4b** Solve quadratic equations by taking square roots, factoring, completing the square, and the quadratic formula, as appropriate to the initial form of the equation.	**GSE Standard(s)**: **MGSE9–12.A.REI.4b** Solve quadratic equations by taking square roots, factoring, completing the square, and the quadratic formula, as appropriate to the initial form of the equation.	**GSE Standard(s)**: **MGSE9–12.A.REI.4b** Solve quadratic equations by taking square roots, factoring, completing the square, and the quadratic formula, as appropriate to the initial form of the equation.	**GSE Standard(s)**: **MGSE9–12.F.IF.7a** Graph linear and quadratic functions and show intercepts, maxima, and minima.	**GSE Standard(s)**: **MGSE9–12.F.IF.7a** Graph linear and quadratic functions and show intercepts, maxima, and minima.
EQ Question: How do I choose the most efficient method of solving quadratic equations?	**EQ Question:** How do I choose the most efficient method of solving quadratic equations?	**EQ Question:** How do I choose the most efficient method of solving quadratic equations?	**EQ Question:** How do I interpret quadratic functions in context?	**EQ Question:** How do I interpret quadratic functions in context?
Mini Lesson: 24 **Activating Strategies:** How do you take half of a number? Of a fraction? **Lesson:** Solving Quadratics by Completing the Square (continued) 1. Guided Practice 2. Assignment **Resource/Materials:** powerpoint, worksheets	**Mini Lesson:** Computer Lab **Activating Strategies:** https://www.youtube.com/watch?v=ipw59N43k5o **Lesson:** Picking Methods and Reviewing 1. Computer Lab – USATestPrep 2. Quick Review 3. Guided notes 4. Guided practice 5. Assignment **Resource/Materials:** logins, review sheets	**Mini Lesson:** Quick Review **Activating Strategies:** Ask the teacher questions **Test:** Solving Quadratic Equations **Resource/Materials**: tests	**Mini Lesson:** Computer Lab **Activating Strategies:** Tell me everything you can about this graph. **Lesson**: Characteristics of a Quadratic Function 1. Computer Lab – USATestPrep 2. Powerpoint with Guided Notes 3. Guided Practice 4. Assignment (Partners) **Resource/Materials:** Power Point, Guided Notes, Worksheets	**Mini Lesson:** Graphic Organizer for Interactive NB **Activating Strategies:** Compare graphs and equations. **Lesson:** Vertex Form of Quadratic Functions 1. Weekly Review Quiz 2. Powerpoint with Guided Notes 3. Guided Practice 4. Assignment **Resource/Materials:** Power Point, Guided Notes, Worksheets
Differentiation: *Content/Process/Product:* whiteboards *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* whiteboards, USATestPrep *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* USATestPrep *Grouping Strategy:* Partners *Assessment:* teacher observation	**Differentiation:** *Content/Process/Product:* graphic organizer, guided notes *Grouping Strategy:* *Assessment:*
Assessment: *Formative:* thumbs up/down *Summative:*	**Assessment:** *Formative:* thumbs up/down *Summative:*	**Assessment:** *Formative:* *Summative:* test	**Assessment:** *Formative:* thumbs up/down, whiteboards *Summative:*	**Assessment:** *Formative:* thumbs up/down, weekly quiz *Summative:*
Homework: Worksheet	**Homework**: review sheets	**Homework**: none	**Homework**: Characteristics of Quadratic Functions WS	**Homework**: Vertex Form HW

- **Complete factorization over the integers**. Writing a polynomial as a product of polynomials so that none of the factors is the number 1, there is at most one factor of degree zero, each polynomial factor has degree less than or equal to the degree of the product polynomial, each polynomial factor has all integer coefficients, and none of the factor polynomial can written as such a product.
- **Completing the square**. Completing the Square is the process of converting a quadratic equation into a perfect square trinomial by adding or subtracting terms on both sides.
- **Difference of two squares**. A squared (multiplied by itself) number subtracted from another squared number. It refers to the identity $a^2 - b^2 = (a + b)(a - b)$ in elementary algebra.
- **Discriminant of a quadratic equation**. The discriminant of a quadratic equation of the form $ax^2 + bx + c = 0$, $a \neq 0$, is the number $b^2 - 4ac$.
- **Horizontal shift**. A rigid transformation of a graph in a horizontal direction, either left or right.
- **Perfect square trinomial**. A trinomial that factors into two identical binomial factors.
- **Quadratic equation**. An equation of degree 2, which has at most two solutions.
- **Quadratic function**. A function of degree 2 which has a graph that "turns around" once, resembling an umbrella–like curve that faces either right–side up or upside down. This graph is called a parabola.
- **Root**. The x–values where the function has a value of zero.
- **Standard form of a quadratic function**. $ax^2 + bx + c$
- **Vertex**. The maximum or minimum value of a parabola, either in terms of y if the parabola is opening up or down, or in terms of x if the parabola is opening left or right.
- **Vertex form of a quadratic function**. A formula for a quadratic equation of the form $f(x) = a(x - h)^2 + k$, where a is a nonzero constant and the vertex of the graph is the point (h, k).