**Connecticut Common Core Algebra 1 Curriculum**

**Professional Development Plan**

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| **Unit 5 – Arcs and Angles** | | |
| **Date** | **Location** | |
| **Presenters** | | |
| **Schedule for the day**  Opening Session (20 minutes)  Break (5 minutes)  Rotation of three workshops (120 minutes total)  Break (5 minutes)  Closing session (30 minutes) | | |
| **Opening Session**  Start with giving feedback from previous sessions or asking participants to share their concerns about what they have seen so far or the challenges they are currently facing in the classroom.  View the Power Point introduction. (Unit5\_PD\_overview\_v3.pdf). The concept of locus is central to this unit. Highlight the development of the relationship between arcs and angles. Introduce the new idea of radian measure. This unit culminates in a study of the other conic sections, a topic that often was delayed until a pre-calculus course. | | |
| **Workshop 1- Investigation 2 Central Angles and Arcs** | | **Presenter** |
| **Activities**  Activity 5.3.1 Radians and Degrees  Participants use the GeoGebra file Angle with Given Size Tool to explore relationships between Angle Measures and Radians  Activity 5.3.2 Radians and Arc length  Activity 5.3.3 Applications of Arc Length | | **Equipment and Materials**  GeoGebra  ACT531.ggb  ACT532.ggb |
| **Workshop 2 Investigation 4 Tangents to Circles** | | **Presenter** |
| **Activities**  Activity 5.4.3 Two Theorems Involving Right Triangles – returning to the idea of transformation for proofs leading to the Tangent Segments Theorem  Mention that this leads to an assignment that applies the Tangent Segments Theorem | | **Equipment and Materials**  Hand out |
| **Workshop 3 Investigation 5.7 Parabolas** | | **Presenter** |
| **Activities**  Activity 5.7.1a Exploring the Parabola as a locus of points using paper folding  Activity 5.7.1b Exploring the Parabola as a locus of points using GeoGebra  Activity 5.7.3 Deriving the Equation of a Parabola | | **Equipment and Materials**  Parchment paper  Pencil  Ruler  GeoGebra file ACT571.ggb |
| **Closing Session**  Briefly discuss the performance task and end-of-unit assessment using the last two slides of the Unit5 Overview power point.  Spend some time talking about how to adjust your course to make it accessible for many different kinds of learners.  Respond to questions from participants | | |
| **Additional Comments** | | |