Unit 04: Accelerated: Conics

Content Area: **Math**
Course(s): **Generic Course**
Time Period: **Marking Period 3**
Length: **6 weeks**
Status: **Published**

Unit Introduction

Standards

MA.G-GPE.A	Translate between the geometric description and the equation for a conic section
MA.G-GPE.A.1	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MA.G-GPE.A.2	Derive the equation of a parabola given a focus and directrix.
MA.G-GPE.A.3	Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Essential Questions

Content

- 10.1 Lines: pg 688
- 10.2 Introduction to Conics, Parabolas: pg 695
- 10.3 Ellipses: 704
- 10.4 Hyperbola: pg 713

Skills

- Classify conics from their general equations
- Find asymptotes of and graph hyperbolas
- Find eccentricities of ellipses
- Find the angle between two lines
- Find the distance between a point and a line
- Find the inclination of a line
- Recognize a conic as the intersection of a plane and a double-napped cone
- Use properties of ellipses to model and solve real-life problems

- Use properties of hyperbolas to solve real-life problems
- Use the reflective property of parabolas to solve real-life problems
- Write equations of ellipses in standard form and graph ellipses
- Write equations of hyperbolas in standard form
- Write equations of parabolas in standard form