Expectations

Indicators

Essential Question

Enduring Understanding

1.1 The student will represent functions and relations numerically, graphically, and algebraically.

1.1.A2.5   write the equation and describe the characteristics of a circle, ellipse, and hyperbola centered at the origin and parabola with vertex at the origin given its graph.

1.1.A2.6   write the equation and describe the characteristics of a conic section given its graph.

1.2 The student will describe and apply properties of functions and relations.

1.1.A2.13   represent circles, ellipses, and hyperbolas centered at the origin and parabolas with vertex at the origin algebraically and graphically.

1.1.A2.14   represent conic sections algebraically and graphically.

1.3 The student will perform a variety of operations and geometrical transformations on functions and relations.

1.2.A2.9   describe the properties of circles, ellipses, and hyperbolas centered   at the origin and parabolas with vertex at the origin.

1.2.A2.10   describe the properties of circles, ellipses, hyperbolas, and parabolas.

1.4 The student will use numerical, algebraic, and graphical representations of functions and relations in order to solve real-world problems.

1.3.A2.8   determine the standard form for conics.

1.4.A2.10 solve quadratic systems of equations and inequalities.

2.1 The student will describe relationships between geometric figures.

2.1.A2.1   describe circles, ellipses, parabolas, and hyperbolas as a locus of points.

How do quadratic relations model real-world problems and their solutions?

The characteristics of quadratic relations and their representations are useful in solving real-world problems.