

Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	Standard: G.GPE.2 - Derive the equation of a parabola given a focus and directrix.
<p><u>Expressing Geometric Properties with Equations</u> Translate between the geometric description and the equation for a conic section</p>	<p><u>Questions to Focus Learning</u> How do you write the equation of a parabola? A parabola is a set of points that can be defined by an equation.</p> <p><u>Student Friendly Objectives</u></p> <p><i>Knowledge Targets</i></p> <p>I know the distance formula.</p> <p><i>Reasoning Targets</i></p> <p>I can derive the general equation of a parabola given a focus and directrix. I can write the equation of a parabola given its focus and directrix. I can graph a parabola given its equation. I can find the focus and directrix given an equation. I can determine the domain and the range of a parabola.</p> <p><u>Vocabulary</u></p> <p>directrix distance formula domain focus locus parabola range standard form of a parabola (e.g., $(y - k)^2 = 4p(x - h)$ and $(x - h)^2 = 4p(y - k)$)</p>

Teacher Tips

The directrix should be parallel to a coordinate axis.

Vertical Progression

G.GPE.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.

The above information and more can be accessed for free on the [Wiki-Teacher](#) website.

Direct link for this standard: [G.GPE.2](#)