

## High School Algebra Playlist: Deriving the Equation of a Parabola

Aligns with [CCSS.Math.Content.HSG.GPE.A.2](#): Derive the equation of a parabola given a focus and directrix.

### Related Standards

- [CCSS.Math.Content.HSF.IF.C.7.a](#): Graph linear and quadratic functions and show intercepts, maxima, and minima.
- [CCSS.Math.Content.HSA.SSE.B.3.b](#): Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

PREVIEW



## Objectives

In this module, you will learn and practice the following skills:

- learn a new way to define parabolas
- write the equation of a parabola from its directrix and focus

Let's get started!

## Key Terms

- The **focus** is the fixed point on the interior of a parabola such that points on the parabola are equidistant from it and from the directrix.
- The **directrix** is a line such that points on the parabola are equidistant from it and from the focus.

## Connections

- <https://openstaxcollege.org/textbooks/algebra-and-trigonometry>; section 12.3, about page 1393
- <https://openstaxcollege.org/textbooks/algebra-and-trigonometry>; section 12.3, about page 1397
- <https://openstaxcollege.org/textbooks/algebra-and-trigonometry>; section 5.1, about page 478
- <https://openstaxcollege.org/textbooks/algebra-and-trigonometry>; section 5.1, about page 480

