

High School Algebra Playlist: Graphing Rational Functions

Aligns with [CCSS.Math.Content.HSF.IF.C.7.d](#): Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.

Related Standards

- [CCSS.Math.Content.HSF.IF.A.1](#): Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.
- [CCSS.Math.Content.HSF.IF.C.7](#): Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases
- [CCSS.Math.Content.HSF.IF.C.7.c](#): Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.

PREVIEW



Objectives

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

- graph rational functions
- identify the zeros and asymptotes of rational functions

Let's get started!

Key Terms

- A **rational function** is a function that is the ratio of two polynomials.
- An **asymptote** is a line that a graph gets closer and closer to but never reaches.

Connections

- <https://openstaxcollege.org/textbooks/algebra-and-trigonometry>; section 1.4
- <https://openstaxcollege.org/textbooks/algebra-and-trigonometry>; section 5.6

PREVIEW



Graphing Rational Functions

([CCSS.Math.Content.HSF.IF.C.7.d](#))

A **rational function** is a function that is the ratio of two polynomials. An **asymptote** is a line that a graph gets closer and closer to but never reaches.

If your students...

Confuse a hole with an asymptote:

Students often examine a rational function and then say that the function has a hole where it has an asymptote, or vice versa.

WATCH: Asymptotes of rational functions

<https://www.opened.com/video/asymptotes-of-rational-functions/183605>

WATCH: Find the Intercepts, Asymptotes, and Hole of a Rational Function

<https://www.opened.com/video/ex-find-the-intercepts-asymptotes-and-hole-of-a-rational/2956985>

PREVIEW

