

# Polynomials & Rational Functions

## Station guide

This station explores polynomials and rational functions, bringing together and building on ideas from the number, algebra and function lines.

[Divide it up](#) links polynomial division to polynomial multiplication, while the structure of polynomial division is examined in [What's left?](#) The remainder and factor theorems expand upon these ideas and appear in some of the Review questions at the station, such as [R8701](#) and [R6790](#).

Graph sketching is encouraged and expected in many of the resources at this station. [Can you find... cubic edition](#) develops the link between the equations and the graphs of cubics, while [Inequality sets](#) reinforces the usefulness of a graphical representation when solving inequalities. [Function builder 2](#) and [Can you find... asymptote edition](#) help to build understanding of the properties of rational functions and their graphs.

Other resources include [Frightening function](#), which can introduce the idea of partial fractions, and [Happy families](#), where students are encouraged to apply their understanding of functions and graphs. There are also some Bigger picture pieces at the station which explore some of the history of polynomials.