Now

In Chapter 5, you will apply the big ideas listed below and reviewed in the Chapter Summary on page 401. You will also use the key vocabulary listed below.

Big Ideas

1. Graphing polynomial functions
2. Performing operations with polynomials
3. Solving polynomial equations and finding zeros

KEY VOCABULARY

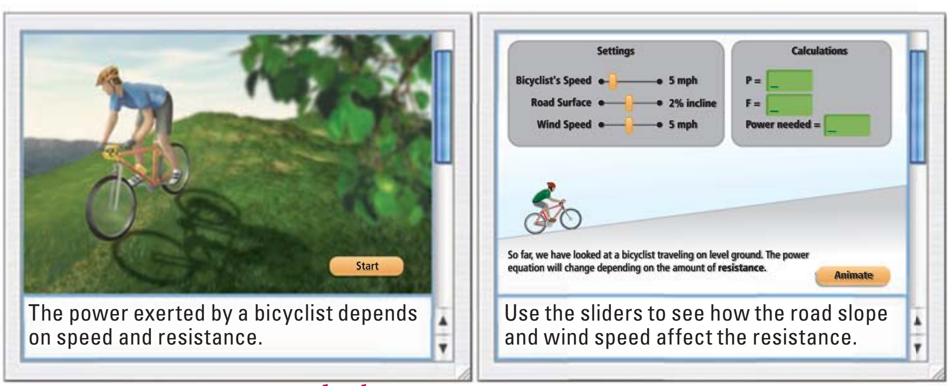
- polynomial, *p. 337*
- polynomial function, *p. 337*
- synthetic substitution, *p. 338*
- end behavior, *p. 339*
- factored completely, *p. 353*
- factor by grouping, *p. 354*
- quadratic form, *p. 355*
- polynomial long division, *p. 362*
- synthetic division, *p. 363*
- repeated solution, *p. 379*
- local maximum, *p. 388*
- local minimum, *p. 388*
- finite differences, *p. 393*

Why?

You can use polynomial functions to model real-life situations. For example, you can use a polynomial function to model the relationship between the speed of an object and the power needed to maintain that speed.

Animated Algebra

The animation illustrated below for Exercise 61 on page 351 helps you answer this question: How does the power needed to keep a bicycle moving at a constant speed change as the conditions change?



The power exerted by a bicyclist depends on speed and resistance.

Use the sliders to see how the road slope and wind speed affect the resistance.

Algebra at classzone.com

Animated Algebra at classzone.com

Other animations for Chapter 5: pages 331, 340, 371, 388, 396, and 401