In Chapter 6, you will apply the big ideas listed below and reviewed in the Chapter Summary on page 465. You will also use the key vocabulary listed below.

Big Ideas

1 **Using rational exponents**
2 **Performing function operations and finding inverse functions**
3 **Graphing radical functions and solving radical equations**

KEY VOCABULARY

- *n*th root of *a*, *p. 414*
- index of a radical, *p. 414*
- simplest form of a radical, *p. 422*

- like radicals, *p. 422*
- power function, *p. 428*
- composition, *p. 430*
- inverse relation, *p. 438*

- inverse function, *p. 438*
- radical function, *p. 446*
- radical equation, *p. 452*

Why?

You can use a radical function to model the time you are suspended in the air during a jump. For example, the hang time of a basketball player can be modeled by a radical function.

Animated Algebra

The animation illustrated below for Exercise 60 on page 458 helps you answer this question: What is the relationship between the height of a jump and the time the jumper is suspended in air?

The hang time of a jump depends on the height of a jump.

Choose several jump heights and see the hang times plotted on a graph.

Algebra at www. publisher.com

Animated **Algebra** at classzone.com

Other animations for Chapter 6: pages 431, 444, 448, and 465