Now

In Chapter 7, you will apply the big ideas listed below and reviewed in the Chapter Summary on page 538. You will also use the key vocabulary listed below.

Big Ideas

1. Graphing exponential and logarithmic functions
2. Solving exponential and logarithmic equations
3. Writing and applying exponential and power functions

KEY VOCABULARY

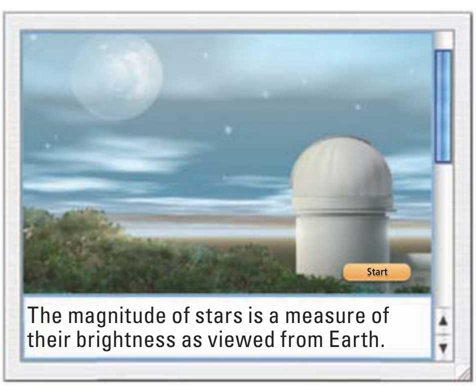
- exponential function, *p. 478*
- exponential growth function, *p. 478*
- growth factor, *p. 478*
- asymptote, *p. 478*
- exponential decay function, *p. 486*
- decay factor, *p. 486*
- natural base *e*, *p. 492*
- logarithm of *y* with base *b*, *p. 499*
- common logarithm, *p. 500*
- natural logarithm, *p. 500*
- exponential equation, *p. 515*
- logarithmic equation, *p. 517*

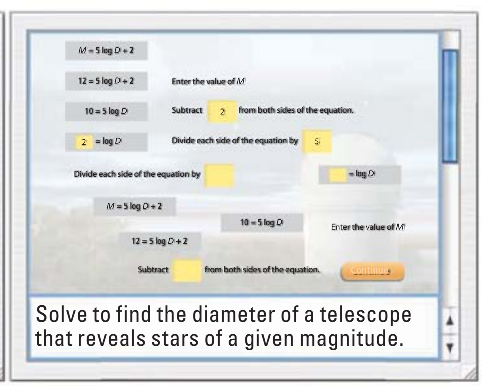
Why?

You can use exponential and logarithmic functions to model many scientific relationships. For example, you can use a logarithmic function to relate the size of a telescope lens and the ability of the telescope to see certain stars.

Animated Algebra

The animation illustrated below for Example 7 on page 519 helps you answer this question: How is the diameter of a telescope's objective lens related to the apparent magnitude of the dimmest star that can be seen with the telescope?





Algebra at www. publisher.com

Animated Algebra at classzone.com

Other animations for Chapter 7: pages 480, 487, 502, and 538