

# 7

# Exponential and Logarithmic Functions



2A.11.B

7.1 Graph Exponential Growth Functions

2A.11.B

7.2 Graph Exponential Decay Functions

2A.11.F

7.3 Use Functions Involving  $e$

2A.11.A

7.4 Evaluate Logarithms and Graph Logarithmic Functions

a.2

7.5 Apply Properties of Logarithms

2A.11.F

7.6 Solve Exponential and Logarithmic Equations

2A.11.F

7.7 Write and Apply Exponential and Power Functions

## Before

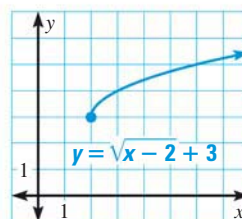
In previous chapters, you learned the following skills, which you'll use in Chapter 7: graphing functions, finding inverse functions, and writing functions.

## Prerequisite Skills

### VOCABULARY CHECK

Copy and complete the statement using the graph at the right.

1. The **domain** of the function is  $\underline{\quad? \quad}$ .
2. The **range** of the function is  $\underline{\quad? \quad}$ .
3. The **inverse** of the function is  $\underline{\quad? \quad}$ .



### SKILLS CHECK

Graph the function. State the domain and range. (Review p. 446 for 7.1–7.3.)

4.  $y = -2\sqrt{x} - 1$       5.  $y = \sqrt{x + 3}$       6.  $y = \sqrt[3]{x - 2} + 5$

Find the inverse of the function. (Review p. 438 for 7.4.)

7.  $y = 3x + 5$       8.  $y = -2x^3 + 1$       9.  $y = \frac{1}{2}x^2, x \geq 0$

Write a quadratic function in standard form for the parabola that passes through the given points. (Review p. 309 for 7.7.)

10.  $(0, -1), (1, 2), (3, 14)$       11.  $(3, 8), (4, 17), (7, 56)$       12.  $(-3, 9), (1, -7), (5, -55)$



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