

Chapter 2

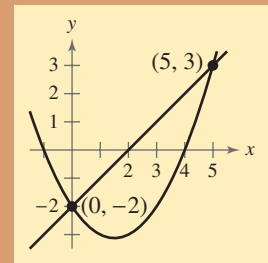
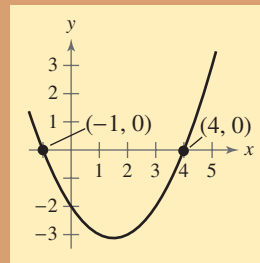
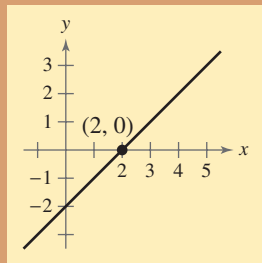
Solving Equations and Inequalities

- 2.1 Linear Equations and Problem Solving
- 2.2 Solving Equations Graphically
- 2.3 Complex Numbers
- 2.4 Solving Quadratic Equations Algebraically
- 2.5 Solving Other Types of Equations Algebraically
- 2.6 Solving Inequalities Algebraically and Graphically
- 2.7 Linear Models and Scatter Plots

Selected Applications

Equations and inequalities have many real-life applications. The applications listed below represent a small sample of the applications in this chapter.

- Anthropology, Exercises 57 and 58, page 173
- Hospitals, Exercise 80, page 185
- Fractals, Exercises 77 and 78, page 194
- Flying Distance, Exercise 89, page 208
- Transplants, Exercise 77, page 217
- Juvenile Crime, Exercise 78, page 217
- Education, Exercise 83, page 230
- Music, Exercises 89–92, page 231
- Hooke's Law, Exercise 11, page 238



Solving real-life applications requires the ability to solve many types of equations—linear, quadratic, and polynomial as well as equations involving fractions, radicals, and absolute values. In Chapter 2, you will learn algebraic and graphical methods for solving a variety of equations and inequalities. You will also learn how to perform operations on complex numbers and plot complex numbers in a complex plane.

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Linear equations can be used to model the relationship between the length of a human's femur and the height of the human. These equations help researchers learn about ancient cultures.