Now

In Chapter 14, you will apply the big ideas listed below and reviewed in the Chapter Summary on page 964. You will also use the key vocabulary listed below.

Big Ideas

1. **Graphing trigonometric functions**
2. **Solving trigonometric equations**
3. **Applying trigonometric formulas**

KEY VOCABULARY

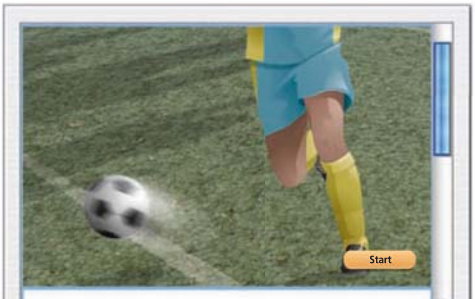
- amplitude, *p. 908*
- periodic function, *p. 908*
- cycle, *p. 908*
- period, *p. 908*
- frequency, *p. 910*
- trigonometric identity, *p. 924*
- sinusoid, *p. 941*

Why?

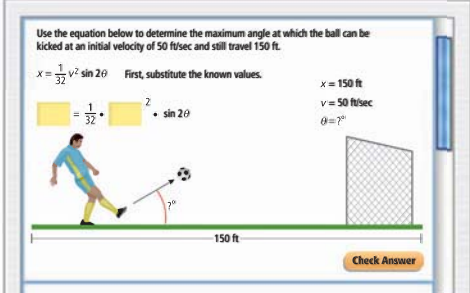
You can use trigonometric functions to model characteristics of a projectile's path. For example, you can find the horizontal distance traveled by a soccer ball using trigonometric functions.

Animated Algebra

The animation illustrated below for Exercise 51 on page 961 helps you answer this question: How does changing the initial speed and angle of a soccer ball kicked from ground level affect the horizontal distance the ball travels?



The angle and speed at which a ball is kicked influence the distance it travels.



Given a speed and distance, use the motion equation to solve for the kick angle.

Animated Algebra at classzone.com

Other animations for Chapter 14: pages 912, 917, and 964