

CHAPTER 9

Lesson 9.5 (pp. 495–497)

Hints and Homework Help for Exs. 3, 5, 11, 23

3. $\text{hypotenuse} = \text{leg} \cdot \sqrt{2}$

$$9\sqrt{2} = x \cdot \sqrt{2}$$

$$9 = x$$

The length of a leg is 9 meters.

5. $\text{hypotenuse} = \text{leg} \cdot \sqrt{2}$

$$z = 30\sqrt{2}$$

The length of the hypotenuse is $30\sqrt{2}$ feet.

11. $\text{longer leg} = \text{shorter leg} \cdot \sqrt{3}$

$$17\sqrt{3} = x \cdot \sqrt{3}$$

$$17 = x$$

$\text{hypotenuse} = 2 \cdot \text{shorter leg}$

$$z = 2 \cdot 17$$

$$z = 34$$

The shorter leg is 17 centimeters and the hypotenuse is 34 centimeters.

23. Hint:

Step 1 Draw the right triangle made by the escalator going down from the main floor at an angle of 30° .

Step 2 Use the 30° - 60° - 90° triangle relationships given in the Key Concept box on page 494 to find the missing side.