

CHAPTER 9

Lesson 9.3 (pp. 484–486)

Hints and Homework Help for Exs. 3, 9, 13, 33

3. $a^2 + b^2 = c^2$

$$30^2 + 16^2 = c^2$$

$$900 + 256 = c^2$$

$$1156 = c^2$$

$$\sqrt{1156} = c$$

$$34 = c$$

The length of the hypotenuse is 34 feet.

9. $a^2 + b^2 = c^2$

$$46^2 + b^2 = 50^2$$

$$2116 + b^2 = 2500$$

$$b^2 = 384$$

$$b = \sqrt{384}$$

$$b \approx 19.6$$

The length of the leg is about 19.6 feet.

13. $a = 85$, $b = 204$, $c = 221$

$$a^2 + b^2 \stackrel{?}{=} c^2$$

$$85^2 + 204^2 \stackrel{?}{=} 221^2$$

$$7225 + 41,616 \stackrel{?}{=} 48,841$$

$$48,841 = 48,841$$

It is a right triangle.

33. Hint:

Step 1 Refer to the Key Concept box on page 482 for the Pythagorean Theorem.

Step 2 Substitute for a , b , and c , and solve for the height of the pole.