

CHAPTER 9

Lesson 9.4 (pp. 489–491)

Hints and Homework Help for Exs. 3, 5, 11, 31

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

$$20^2 + b^2 = 25^2$$

$$400 + b^2 = 625$$

$$b^2 = 225$$

$$b = 15$$

$$\text{Perimeter} = 20 + 15 + 25 = 60$$

$$\text{Area} = \frac{1}{2}bh = \frac{1}{2}(20)(15) = 150$$

The perimeter is 60 feet and the area is 150 square feet.

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

$$4.8^2 + 3.6^2 = c^2$$

$$23.04 + 12.96 = c^2$$

$$36 = c^2$$

$$6 = c$$

$$\text{Perimeter} = 4.8 + 3.6 + 6 = 14.4$$

$$\text{Area} = \frac{1}{2}bh = \frac{1}{2}(4.8)(3.6) = 8.64$$

The perimeter is 14.4 inches and the area is 8.64 square inches.

11. The hypotenuse was used in the area formula instead of the missing leg.

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

$$a^2 + 2.1^2 = 5.3^2$$

$$a^2 + 4.41 = 28.09$$

$$a^2 = 23.68$$

$$a \approx 4.9$$

$$A = \frac{1}{2}bh = \frac{1}{2}(4.9)(2.1) \approx 5.1$$

The area is about 5.1 square feet.

CHAPTER 9

Lesson 9.4 (pp. 489–491) *continued*

31. Hint:

Part a Draw a rectangle and one of its diagonals.

Part b Label the known distances.

Part c

Step 1 Write the Pythagorean Theorem.

Step 2 Substitute the length and width of the pool in the formula from Step 1 for the legs.

Step 3 Solve the equation in Step 2 for the hypotenuse of the right triangle formed by the diagonal.