

## 10.2 Exercises

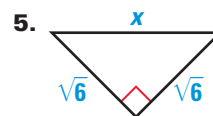
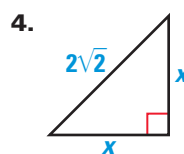
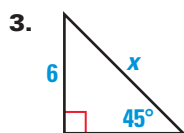
### Guided Practice

#### Vocabulary Check

- How many congruent sides does an *isosceles right triangle* have?
- How many congruent angles does an isosceles right triangle have? What are the measures of the three angles?

#### Skill Check

Find the value of  $x$  in the  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle. Write your answer in radical form.

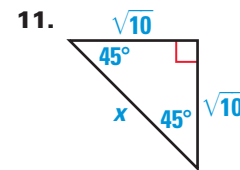
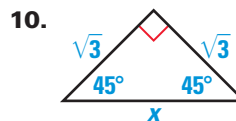
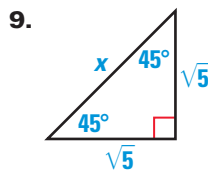
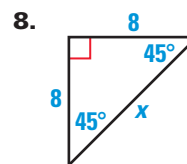
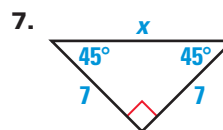
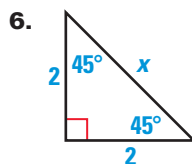


### Practice and Applications

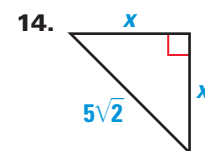
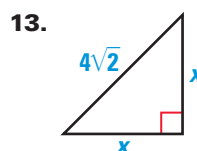
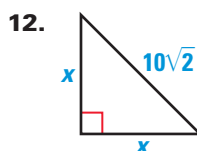
#### Extra Practice

See p. 693.

**Finding Hypotenuse Lengths** Find the length of the hypotenuse in the  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle. Write your answer in radical form.

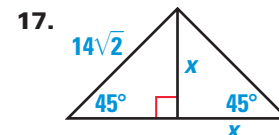
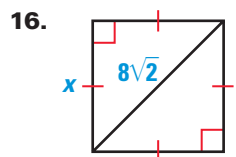
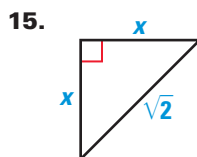


**Finding Leg Lengths** Find the length of a leg in the  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle.

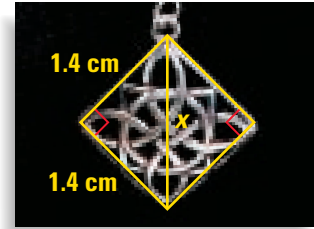


#### Homework Help

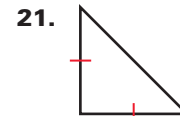
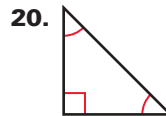
- Example 1: Exs. 6–11, 18  
 Example 2: Exs. 12–17  
 Example 3: Exs. 19–27  
 Example 4: Exs. 22–27



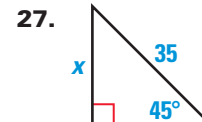
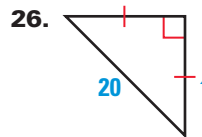
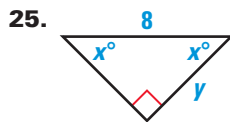
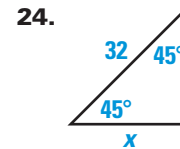
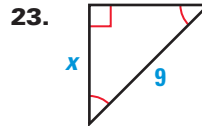
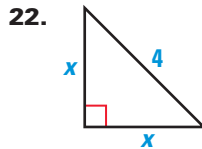
18. **Jewelry** Use a calculator to find the length  $x$  of the earring shown at the right. Round your answer to the nearest tenth.



**You be the Judge** Determine whether there is enough information to conclude that the triangle is a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle. Explain your reasoning.

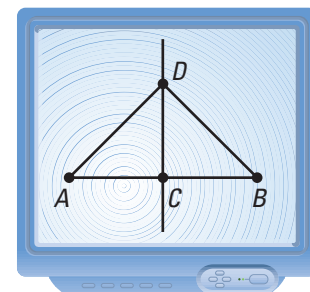


**Finding Leg Lengths** Show that the triangle is a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle. Then find the value of each variable. Round to the nearest tenth.



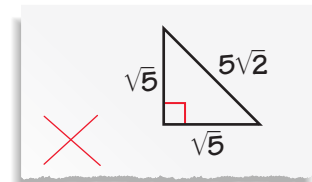
**Technology** In Exercises 28–30, use geometry software.

- 1 Draw  $\overline{AB}$  and construct its midpoint,  $C$ .
- 2 Construct the perpendicular bisector of  $\overline{AB}$ .
- 3 Construct point  $D$  on the bisector and construct  $\overline{AD}$  and  $\overline{DB}$ .
- 4 Measure  $\angle ADB$ . Drag point  $D$  until  $m\angle ADB = 90^\circ$ .



28. Name three  $45^\circ$ - $45^\circ$ - $90^\circ$  triangles. Explain how you know they are  $45^\circ$ - $45^\circ$ - $90^\circ$  triangles.
29. Measure  $\overline{AC}$ ,  $\overline{CB}$ , and  $\overline{CD}$ . What do you notice? Explain.
30. Predict the measures of  $\overline{AD}$  and  $\overline{DB}$ . Check your answer by measuring the segments.

31. **Error Analysis** A student labels a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle as shown. Explain and correct the error.



Name: \_\_\_\_\_ Per: \_\_\_\_\_ Date: \_\_\_\_\_

Special Right Triangles – 45-45-90

1.	2.	3.
4.	5.	6.
7.	8.	9.
10.	11.	12.

13.	14.	15.
16.	17.	18.
19.	20.	21.
22.	23.	24.
25.	26.	27.