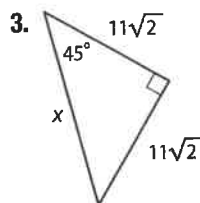
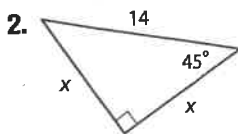
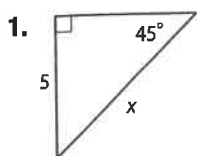


## Check Your Understanding

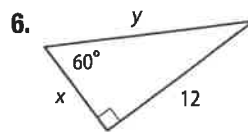
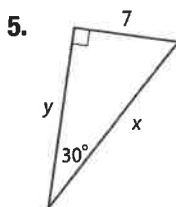
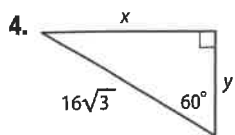
Step-by-Step Solutions begin on page R14.



Examples 1-2 Find  $x$ .

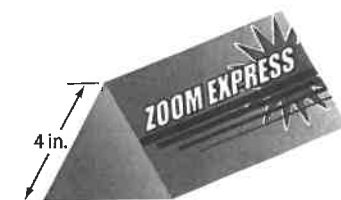


Example 3 Find  $x$  and  $y$ .



Example 4

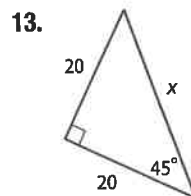
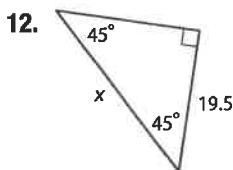
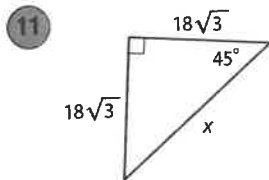
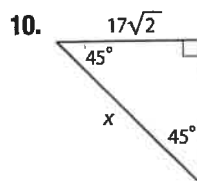
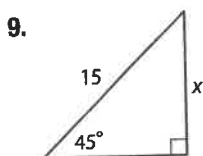
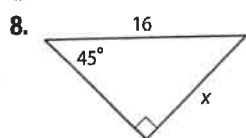
7. **ART** Paulo is mailing an engraved plaque that is  $3\frac{1}{4}$  inches high to the winner of a chess tournament. He has a mailer that is a triangular prism with 4-inch equilateral triangle bases as shown in the diagram. Will the plaque fit through the opening of the mailer? Explain.



## Practice and Problem Solving

Extra Practice is on page R8.

Examples 1-2 **CCSS** SENSE-MAKING Find  $x$ .



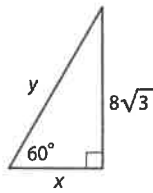
14. If a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle has a hypotenuse length of 9, find the leg length.
15. Determine the length of the leg of a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle with a hypotenuse length of 11.
16. What is the length of the hypotenuse of a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle if the leg length is 6 centimeters?
17. Find the length of the hypotenuse of a  $45^\circ$ - $45^\circ$ - $90^\circ$  triangle with a leg length of 8 centimeters.



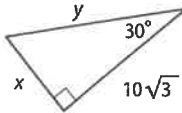
**Example 3**

Find  $x$  and  $y$ .

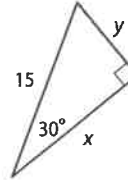
18.



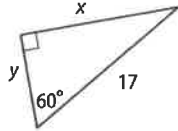
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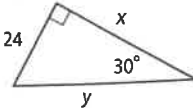
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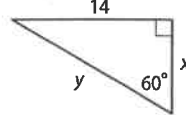
21.



22.



23.



24. An equilateral triangle has an altitude length of 18 feet. Determine the length of a side of the triangle.

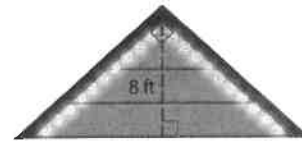
25. Find the length of the side of an equilateral triangle that has an altitude length of 24 feet.

**Example 4**

26. **CCSS MODELING** Refer to the beginning of the lesson. Each highlighter is an equilateral triangle with 9-centimeter sides. Will the highlighter fit in a 10-centimeter by 7-centimeter rectangular box? Explain.

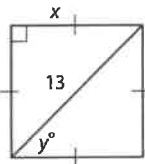


27. **EVENT PLANNING** Grace is having a party, and she wants to decorate the gable of the house as shown. The gable is an isosceles right triangle and she knows that the height of the gable is 8 feet. What length of lights will she need to cover the gable below the roof line?

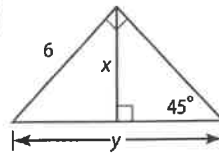


Find  $x$  and  $y$ .

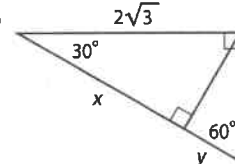
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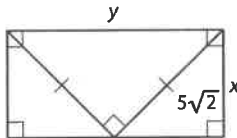
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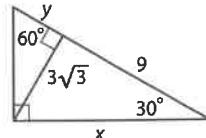
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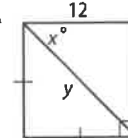
31.



32.



33.



34. **QUILTS** The quilt block shown is made up of a square and four isosceles right triangles. What is the value of  $x$ ? What is the side length of the entire quilt block?

