

Name _____

Date _____

LESSON
7.5

Practice C

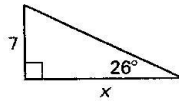
For use with pages 466–472

Find the value of x to the nearest tenth.

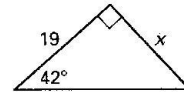
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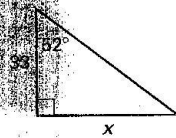
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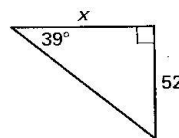
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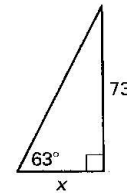
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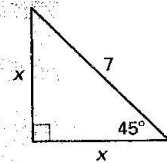


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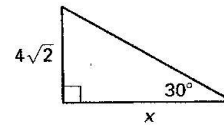


Find the value of x using the definition of tangent. Then find the value of x using the 45° - 45° - 90° Triangle Theorem or the 30° - 60° - 90° Triangle Theorem. Compare the results.

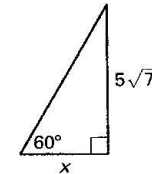
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8.

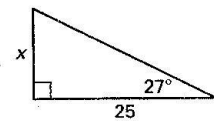


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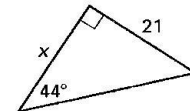


Use a tangent ratio to find the value of x . Round to the nearest tenth.

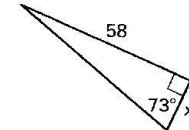
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11.

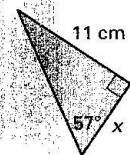


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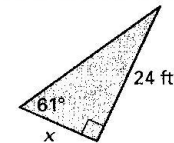


Find the area of the triangle. Round to the nearest tenth.

13.



14.

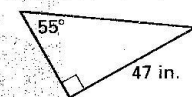


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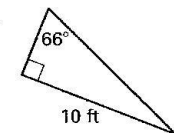


Find the perimeter of the triangle. Round to the nearest tenth.

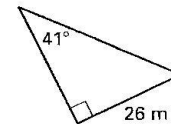
16.



17.



18.

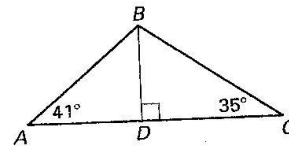


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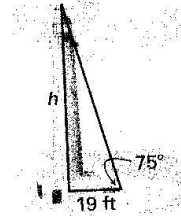
LESSON
7.5**Practice C** *continued*
For use with pages 466–472

19. **Perimeter** What is the perimeter of an equilateral triangle with an altitude of 15 inches?
20. In the diagram to the right, $AC = 42$. What is AD ? Round your answer to the nearest tenth.



In Exercises 21–23, use the figure of the lighthouse.

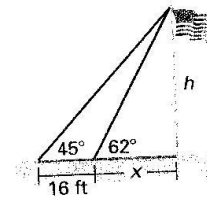
21. At 2 P.M., the shadow of a lighthouse is 19 feet long and the angle of elevation is 75° . Find the height of the lighthouse.
22. At 4 P.M., the angle of elevation of the sun is 40° . Find the length of the shadow cast by the lighthouse.
23. At 6 P.M., will the length of the shadow be longer or shorter than it was at 4 P.M.? *Explain.*



In Exercises 24 and 25, use the figure to the right.

Flagpole When the sun is shining at a 62° angle of elevation, a flagpole forms a shadow of length x feet. Later, the sun shines at an angle of 48° , and the shadow is 16 feet longer than before.

24. Write two expressions for the height h of the flagpole, in terms of x .
25. How tall is the flagpole? Round your answer to the nearest tenth of a foot.



26. **Distance** You are on the west side of the Washington Monument which is 555 feet tall. Your friend is on the opposite (east) side. The angle of elevation from your position to the top of the monument is 42° . The angle of elevation from your friend's position to the top of the monument is 65° . To the nearest foot, how far are you from your friend?

