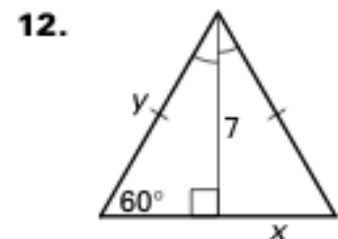
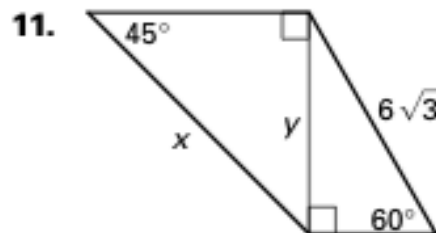
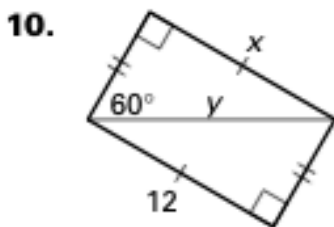
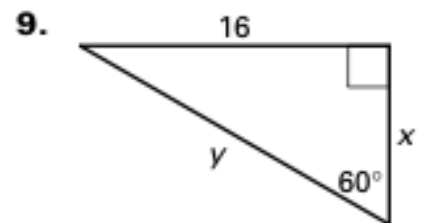
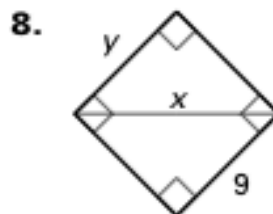
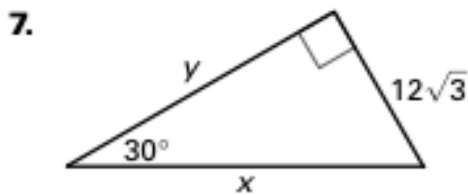
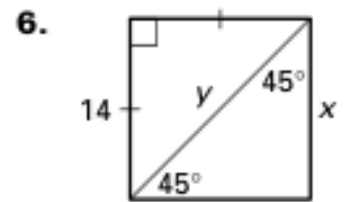
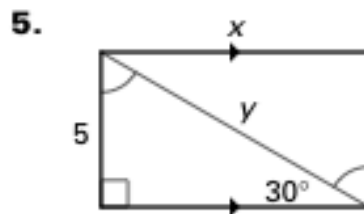
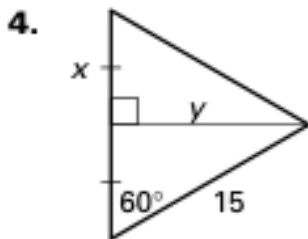
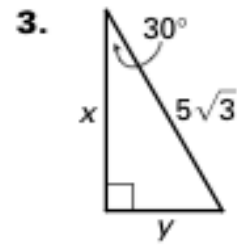
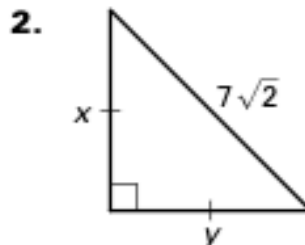
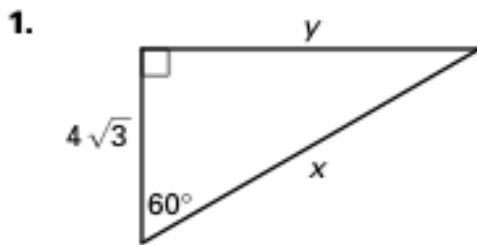


Honors Geometry

Review 7.4. - 7.6

Name _____

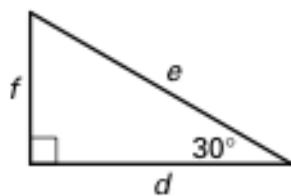
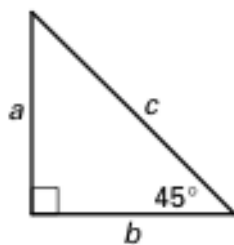
Find the value of each variable. Write your answers in simplest radical form.



- 13. Multiple Choice** In the diagrams to the right, $a = \frac{4}{3}f$.

Which side length is the longest?

- A.** b **B.** c
C. d **D.** f



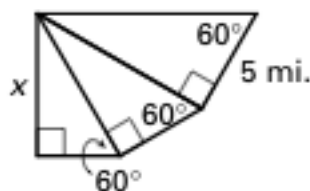
- 14. Perimeter** The altitude of an equilateral triangle is 12 centimeters. Find the perimeter of the triangle. Round to the nearest tenth.

- 15. Area** The diagonal of a square is 12 inches. Find the area. Round to the nearest tenth.

- 16. Diagonal** The perimeter of a rectangle is 32 feet. The length is three times as long as the width. Find the length of the diagonal. Round to the nearest tenth.

- 17. Altitude** The perimeter of an equilateral triangle is 45 meters. Find the length of an altitude. Round to the nearest tenth.

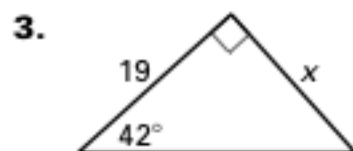
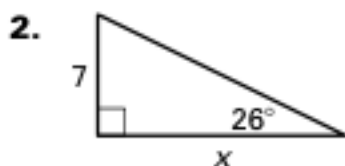
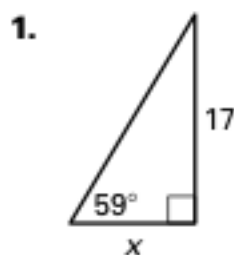
- 18. Distance** Each figure to the right is a 30° - 60° - 90° triangle. Find the value of x . Round to the nearest tenth.

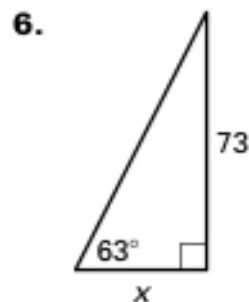
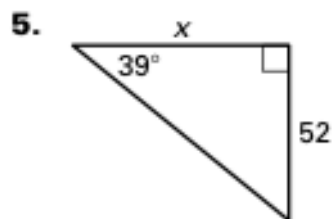
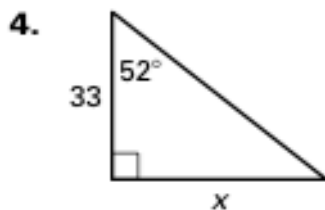


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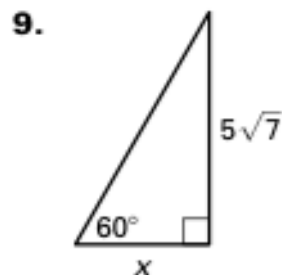
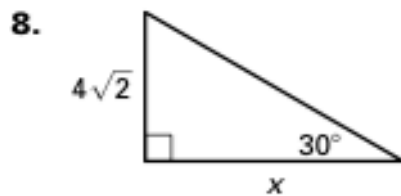
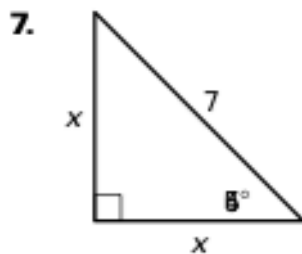
7.5

Find the value of x to the nearest tenth.

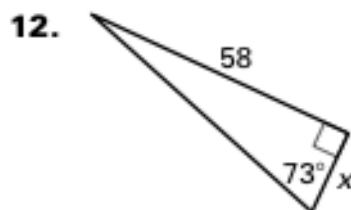
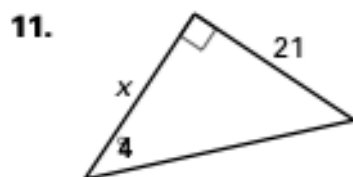
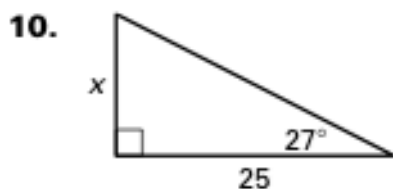




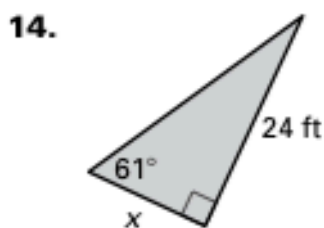
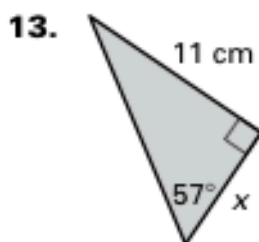
Find the value of x using the definition of tangent. Then find the value of x using the 45° - 45° - 90° Triangle Theorem or the 30° - 60° - 90° Triangle Theorem. Compare the results.



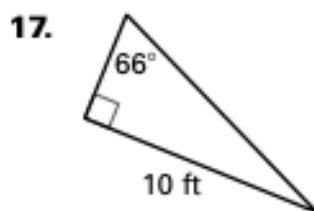
Use a tangent ratio to find the value of x . Round to the nearest tenth.



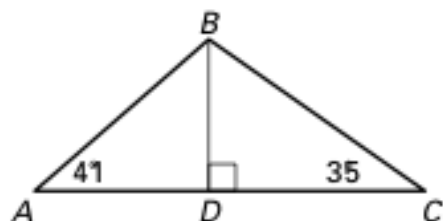
Find the area of the triangle. Round to the nearest tenth.



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

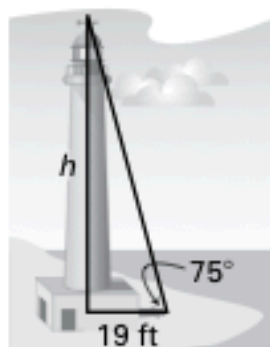


19. **Perimeter** What is the perimeter of an equilateral triangle with an altitude of 15 inches?
20. In the diagram to the right, $AC = 42$. What is AD ? Round your answer to the nearest tenth.



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

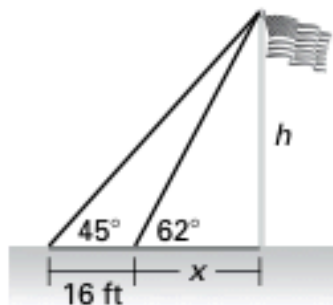
21. At 2 P.M., the shadow of a lighthouse is 19 feet long and the angle of elevation is 75° . Find the height of the lighthouse.
22. At 4 P.M., the angle of elevation of the sun is 40° . Find the length of the shadow cast by the lighthouse.
23. At 6 P.M., will the length of the shadow be longer or shorter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



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

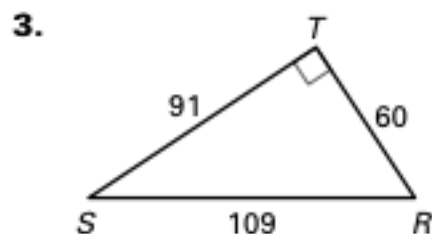
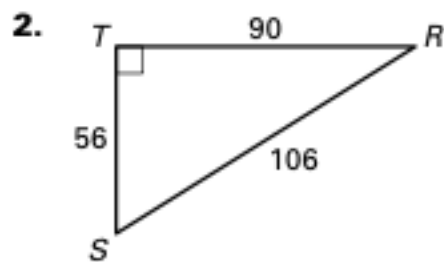
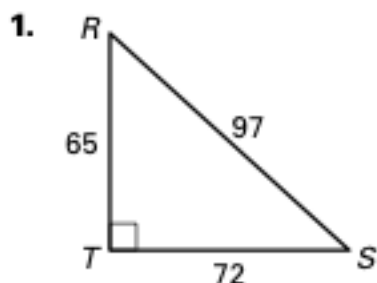
Flagpole When the sun is shining at a 62° angle of elevation, a flagpole forms a shadow of length x feet. Later, the sun shines at an angle of 48° , and the shadow is 16 feet longer than before.

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.

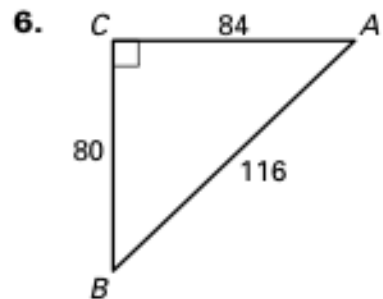
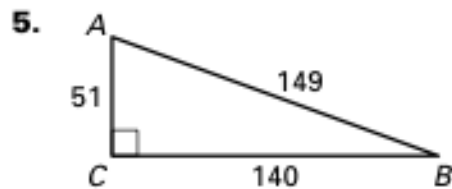
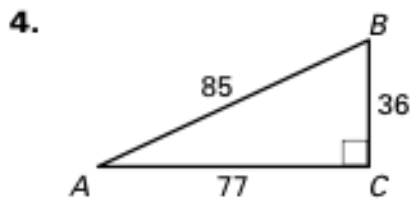


LESSON
7.6

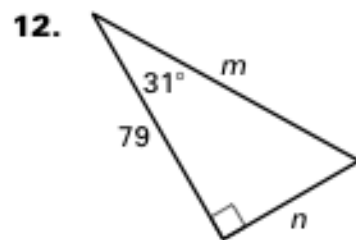
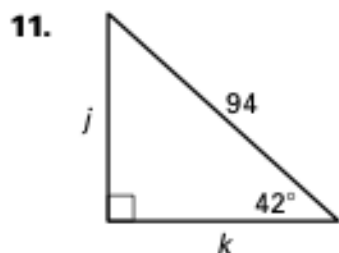
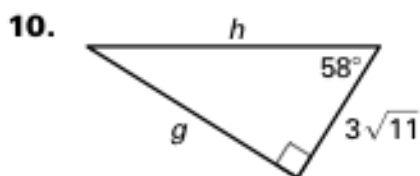
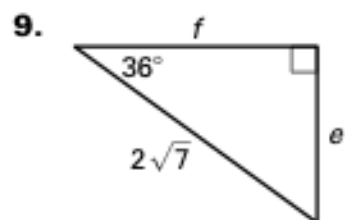
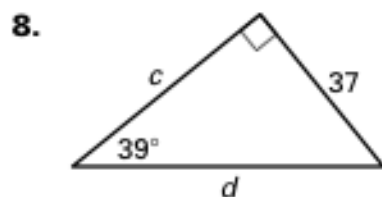
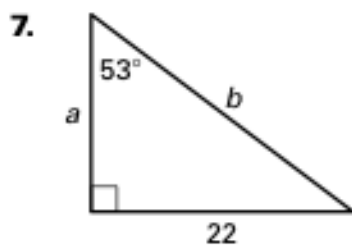
Find $\sin R$ and $\sin S$. Write each answer as a fraction and as a decimal. Round to four decimal places, if necessary.



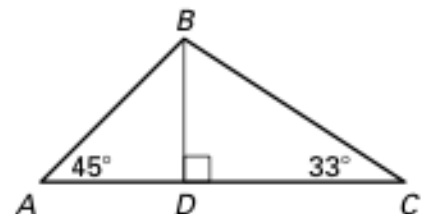
Find $\cos A$ and $\cos B$. Write each answer as a fraction and as a decimal. Round to four decimal places, if necessary.



Use a sine or cosine ratio to find the value of each variable. Round decimals to the nearest tenth.



13. **Perimeter** In the diagram to the right, $BC = 110$ inches. What is the perimeter? Round your answer to the nearest tenth.



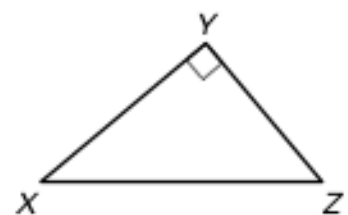
14. **Multiple Choice** In the diagram to the right, $XY \neq YZ$. Which statement about $\triangle XYZ$ *cannot* be true?

A. $\sin X = 0.6293$

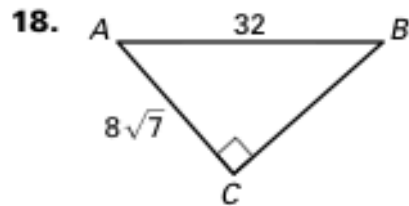
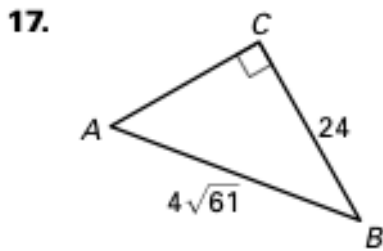
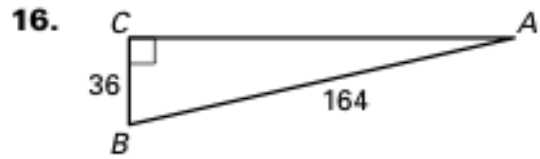
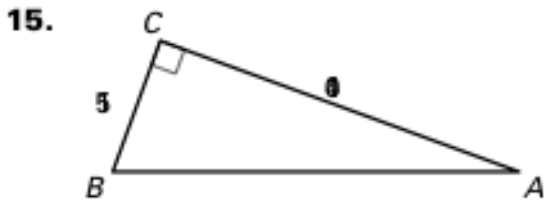
B. $\cos Z = 0.5$

C. $\sin X = \cos Z$

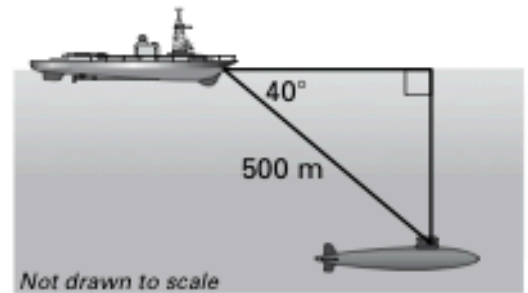
D. $\sin X = \cos X$



Find the unknown side length. Then find $\sin A$ and $\cos A$. Write each answer as a fraction in simplest form and as a decimal. Round to four decimal places, if necessary.



19. **Submarine** A sonar operator on a ship detects a submarine at a distance of 500 meters and an angle of depression of 40° . How deep is the submarine?



Define the following terms completely.

1. 45-45-90 triangle

2. 30-60-90 triangle

3. Trigonometric Ratio: _____

4. Sine: _____

5. Cosine: _____

6. Tangent: _____

7. Angle of Elevation:

8. Angle of Depression:

