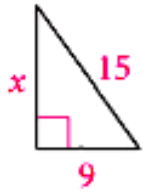
Chapter 8 Right Triangles and Trigonometry **Name:_____Per:__**

Find the value of each variable. Leave your answer in simplest radical form.

1.



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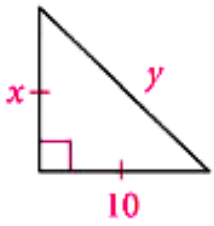

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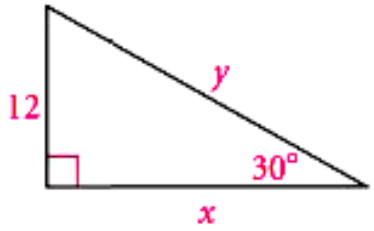

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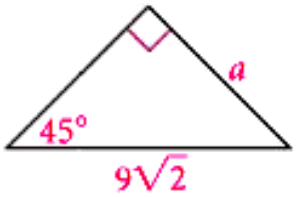

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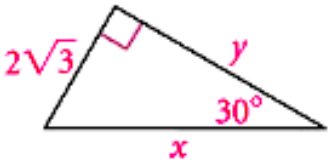

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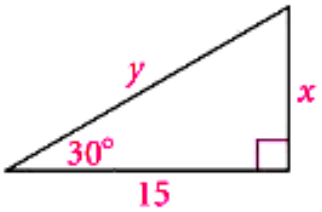


The lengths of the sides of a triangle are given. Classify each triangle as *acute*, *obtuse*, or *right*.

7. 7, 8, 9

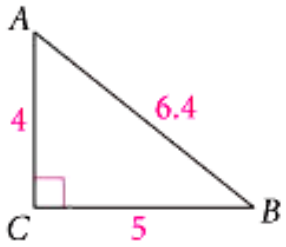
8. 15, 36, 39

9. 10, 12, 16

10. A square has a 40-cm diagonal. How long is each side of the square? Round your answer to the nearest tenth of a centimeter.

Write the tangent, sine, and cosine ratios for $\angle A$ and $\angle B$.

1.



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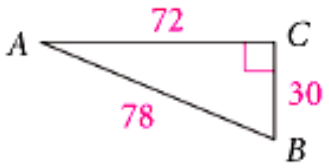

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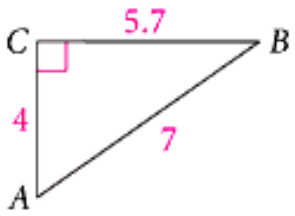
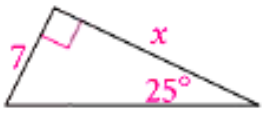


Find the value of x. Round each segment length to the nearest tenth and each angle measure to the nearest whole number.

4.



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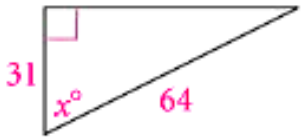

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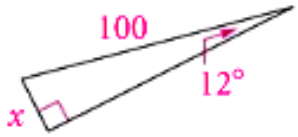
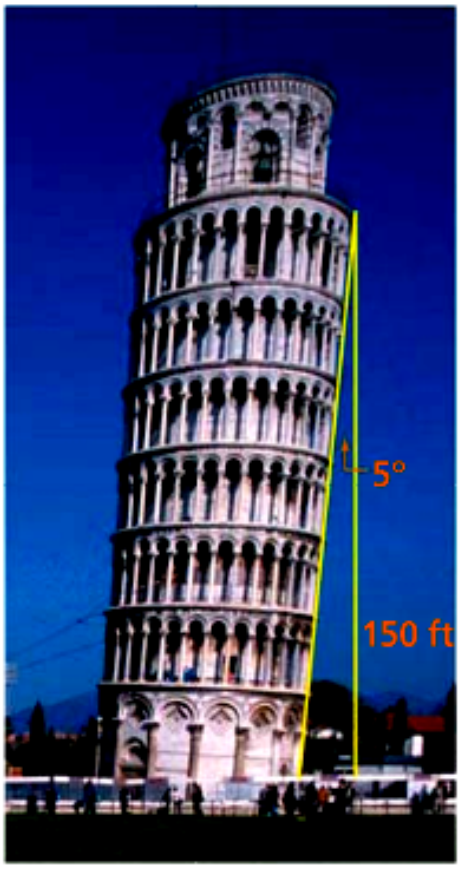


7. Landmarks The Leaning Tower of Pisa, shown at the right, reopened in 2001 after a 10-year project reduced its tilt from vertical by 0.5°. How far from the base of the tower will an object land if it is dropped the 150 ft shown in the photo?



8. Navigation A captain of a sailboat sights the top of a lighthouse at a 17° angle of elevation. A navigation chart shows the height of the lighthouse to be 120 m. How far is the sailboat from the lighthouse?