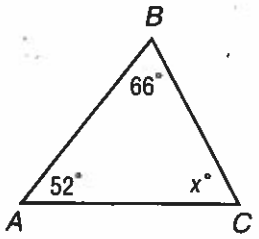
NAME _____ DATE _____ PERIOD ____

10-4 Study Guide and Intervention

Triangles

A **triangle** is a figure with three sides and three angles. The sum of the measures of the angles of a triangle is 180°. You can use this to find a missing angle measure in a triangle.

EXAMPLE 1 **Find the value of x in $\triangle ABC$.**



$x + 66 + 52 = 180$ The sum of the measures is 180.

$x + 118 = 180$ Simplify.

$-118 \quad -118$ Subtract 118 from each side.

$x = 62$

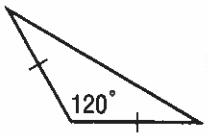
The missing angle is 62°.

Triangles can be classified by the measures of their angles. An **acute triangle** has three acute angles. An **obtuse triangle** has one obtuse angle. A **right triangle** has one right angle.

Triangles can also be classified by the lengths of their sides. Sides that are the same length are **congruent segments** and are often marked by tick marks. In a **scalene triangle**, all sides have different lengths. An **isosceles** triangle has at least two congruent sides. An **equilateral triangle** has all three sides congruent.

EXAMPLE 2 **Classify the triangle by its angles and by its sides.**

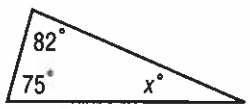
The triangle has one obtuse angle and two sides the same length. So, it is an obtuse, isosceles triangle.



EXERCISES

Find the missing measure in each triangle. Then classify the triangle as *acute*, *right*, or *obtuse*.

1.



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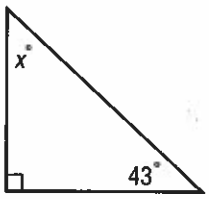

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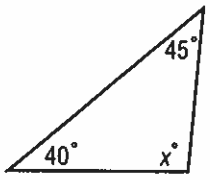
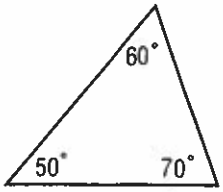


Classify each triangle by its angles and by its sides.

4.



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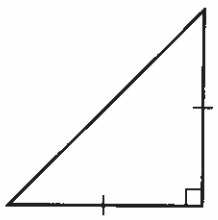

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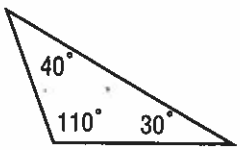


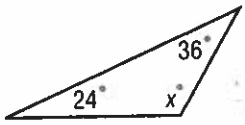
NAME _____ DATE _____ PERIOD ____

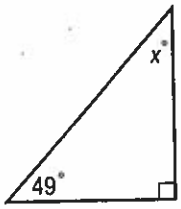
10-4 Practice: Skills

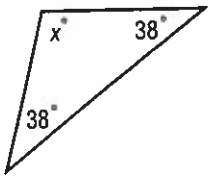
Triangles

Find the missing measure in each triangle. Then classify the triangle as *acute*, *right*, or *obtuse*.

1. 

2. 

3. 

4. 

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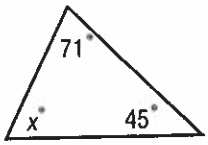
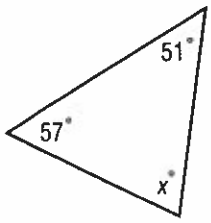
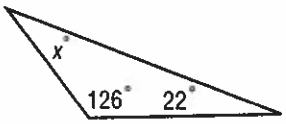
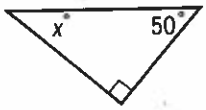
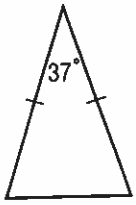
6. 

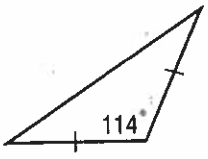
7. 

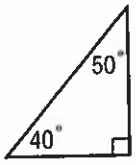
8. 

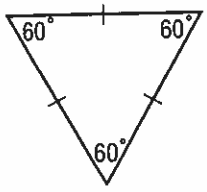
9. 

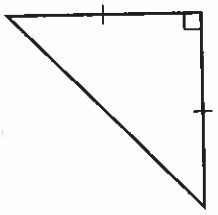
Classify each triangle by its angles and by its sides.

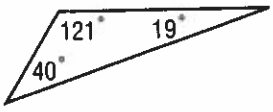
10. 

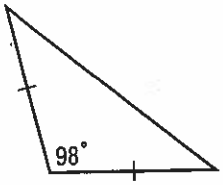
11. 

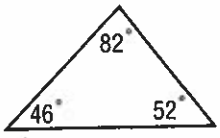
12. 

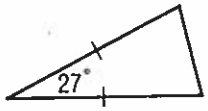
13. 

14. 

15. 

16. 

17. 

18. 

Lesson 10–4