7 Chapter Review

Check It Out
Vocabulary Help
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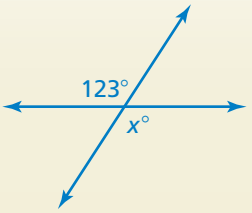
Review Key Vocabulary

adjacent angles, *p. 272*
vertical angles, *p. 272*
congruent angles, *p. 272*
complementary angles, *p. 278*
supplementary angles, *p. 278*
congruent sides, *p. 284*
kite, *p. 294*
scale drawing, *p. 300*
scale model, *p. 300*
scale, *p. 300*
scale factor, *p. 301*

Review Examples and Exercises

7.1 Adjacent and Vertical Angles *(pp. 270–275)*

Tell whether the angles are *adjacent* or *vertical*. Then find the value of *x*.



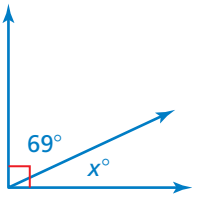
The angles are vertical angles. Because vertical angles are congruent, the angles have the same measure.

So, the value of x is 123.

Exercises

Tell whether the angles are *adjacent* or *vertical*. Then find the value of *x*.

1.



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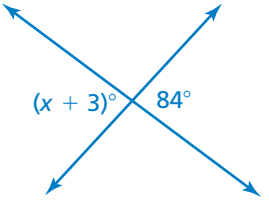
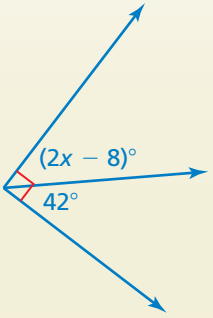


7.2 Complementary and Supplementary Angles *(pp. 276–281)*

Tell whether the angles are *complementary* or *supplementary*. Then find the value of *x*.



The two angles make up a right angle. So, the angles are complementary angles, and the sum of their measures is 90°.

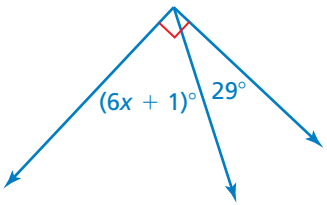
$(2x - 8) + 42 = 90$	Write equation.
$2x + 34 = 90$	Combine like terms.
$2x = 56$	Subtract 34 from each side.
$x = 28$	Divide each side by 2.

So, the value of x is 28.

Exercises

Tell whether the angles are *complementary* or *supplementary*. Then find the value of *x*.

3.



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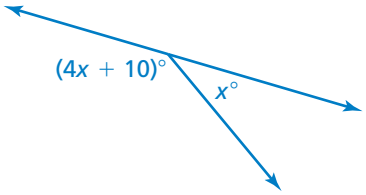
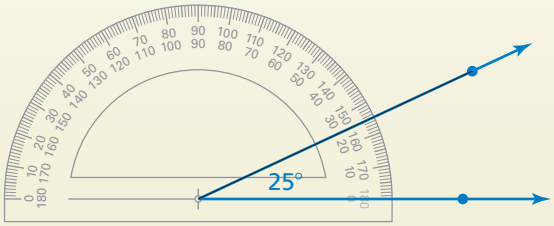


7.3 Triangles *(pp. 282–289)*

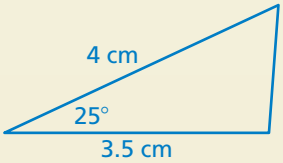
Draw a triangle with a 3.5-centimeter side and a 4-centimeter side that meet at a 25° angle. Then classify the triangle.

Step 1: Use a protractor to draw a 25° angle.



Step 2: Use a ruler to mark 3.5 centimeters on one ray and 4 centimeters on the other ray.

Step 3: Draw the third side to form the triangle.



The triangle is an obtuse scalene triangle.

Exercises

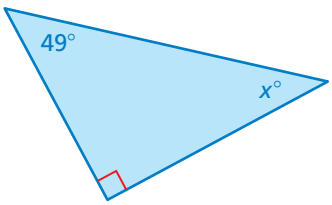
Draw a triangle with the given description.

5. a triangle with angle measures of 40°, 50°, and 90°

6. a triangle with a 3-inch side and a 4-inch side that meet at a 30° angle

Find the value of *x*. Then classify the triangle.

7.



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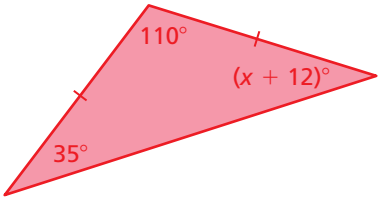
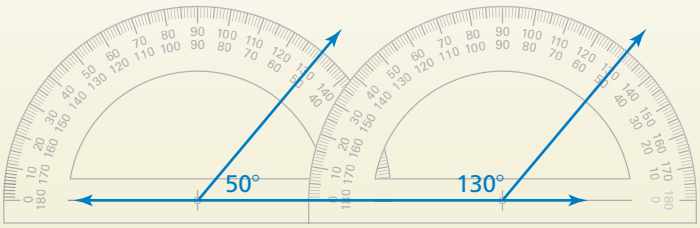


7.4 Quadrilaterals *(pp. 292–297)*

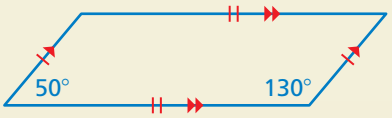
Draw a parallelogram with a 50° angle and a 130° angle.

Step 1: Draw a line.

Step 2: Draw a 50° angle and a 130° angle that each have one side on the line.



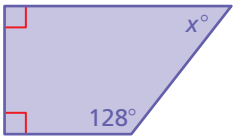
Step 3: Draw the remaining side. Make sure that both pairs of opposite sides are parallel and congruent.



Exercises

Find the value of *x*.

9.



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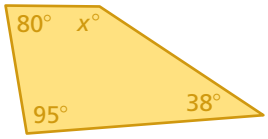


11. Draw a rhombus with 5-centimeter sides and two 120° angles.

7.5 Scale Drawings *(pp. 298–305)*

A lighthouse is 160 feet tall. A scale model of the lighthouse has a scale of 1 in. : 8 ft. How tall is the model of the lighthouse?

$$\frac{1 \text{ in.}}{8 \text{ ft}} = \frac{x \text{ in.}}{160 \text{ ft}}$$

model height

actual height

$$\frac{1 \text{ in.}}{8 \cancel{\text{ft}}} \cdot 160 \cancel{\text{ft}} = \frac{x \text{ in.}}{160 \text{ ft}} \cdot 160 \text{ ft}$$ Multiplication Property of Equality

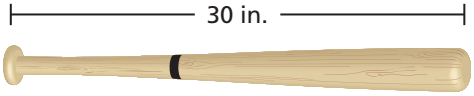
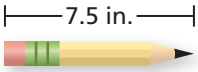
$$20 = x$$ Simplify.

So, the model of the lighthouse is 20 inches tall.

Exercises

Use a centimeter ruler to measure the segment shown. Find the scale of the drawing.

12.



13.