

Chapter 7 Review

Vocabulary Review

adjacent angles (p. 214)

alternate interior angles (p. 218)

complementary (p. 215)

congruent angles (p. 214)

congruent polygons (p. 222)

corresponding angles (p. 218)

exterior angle (p. 241)

interior angle (p. 240)

perpendicular lines (p. 215)

similar figures (p. 228)

similar polygons (p. 228)

supplementary (p. 215)

transversal (p. 218)

vertical angles (p. 214)

Choose the correct vocabulary term to complete each sentence.

1. A (transversal, perpendicular line) intersects two lines at different points.
2. The measures of (complementary, supplementary) angles add up to 180° .
3. (Alternate interior angles, Corresponding angles) are on the same side of a transversal.
4. A pair of (adjacent angles, vertical angles) share both a common vertex and a common side.
5. If two polygons have the same shape but different sizes, then they are (congruent polygons, similar polygons).

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Skills and Concepts

Lessons 7-1, 7-2

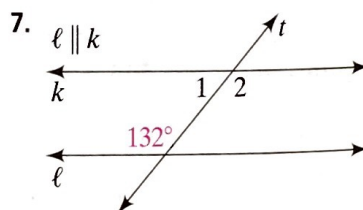
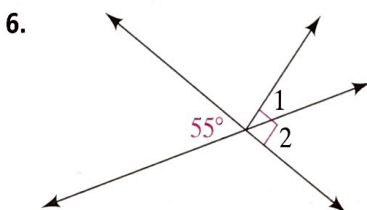
- To identify types of angles and to find angle measures using the relationship between angles
- To identify parallel lines and the angles formed by parallel lines and transversals

Vertical angles have the same measure, so they are **congruent angles**.

The sum of the measures of a pair of **supplementary** angles is 180° . The sum of the measures of a pair of **complementary** angles is 90° .

If two parallel lines are cut by a **transversal**, the **corresponding angles** are congruent, and the **alternate interior angles** are congruent.

Find the measures of $\angle 1$ and $\angle 2$ in each diagram.

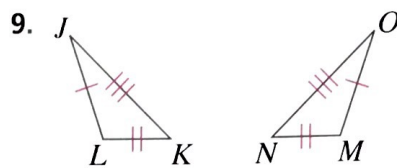
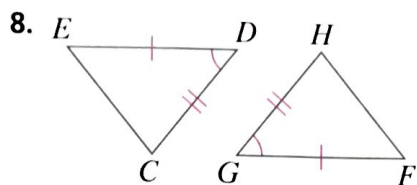


Lesson 7-3

- To identify congruent figures and use them to solve problems

Congruent polygons have exactly the same size and shape. You can use SAS, ASA, or SSS to decide whether two triangles are congruent.

Write a congruence statement and show that the triangles are congruent.

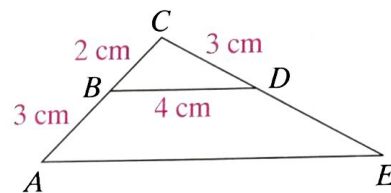


Lesson 7-4

- To identify similar figures and to use proportions to find missing measurements in similar figures

Figures that have the same shape but not necessarily the same size are **similar figures**. **Similar polygons** have corresponding angles that are congruent and corresponding sides that are in proportion.

In the figure, $\triangle ACE \sim \triangle BCD$. Find each unknown length.



10. AE 11. CE 12. DE

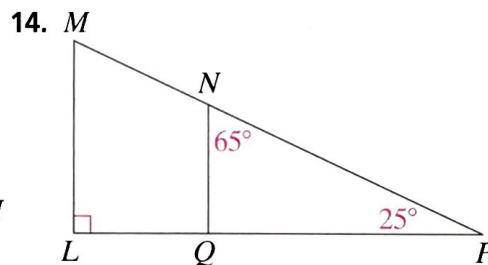
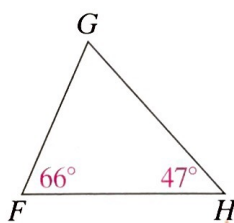
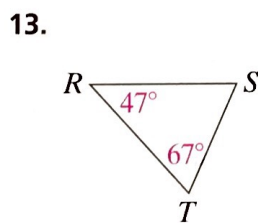
Lesson 7-5

- To determine measures of the angles of triangles and use them to help prove that triangles are similar.

The sum of the measures of the angles of any triangle is 180° .

You can show that two triangles are similar by using AA similarity. In other words, if two angles of one triangle are congruent to the corresponding angles of another triangle, then the triangles are similar.

Show that each pair of triangles is similar.



Lesson 7-6

- To find the angle measures of a polygon

For a polygon with n sides, the sum of the measures of the **interior angles** is $(n - 2)180^\circ$.

The measure of an **exterior angle** of a triangle is equal to the sum of the measures of the interior angles at the other two vertices.

15. Find the unknown angle measure in the figure at the right.
16. In $\triangle JKL$, $m\angle J = 42^\circ$ and $m\angle K = 63^\circ$. What is the measure of an exterior angle at vertex L ?

