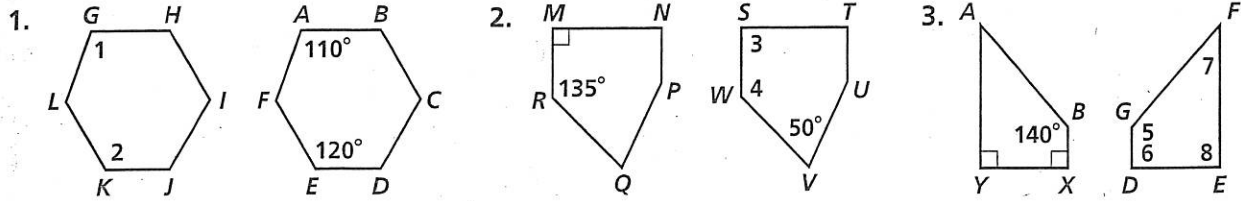


# Practice 4-1

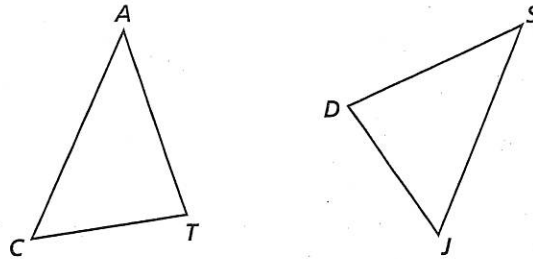
## Congruent Figures

Each pair of polygons is congruent. Find the measures of the numbered angles.



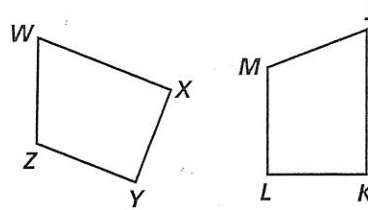
$\triangle CAT \cong \triangle JSD$ . List each of the following.

4. three pairs of congruent sides
5. three pairs of congruent angles



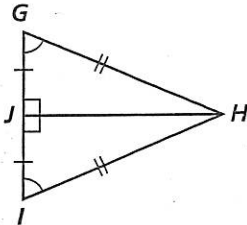
$WXYZ \cong JKLM$ . List each of the following.

6. four pairs of congruent sides
7. four pairs of congruent angles

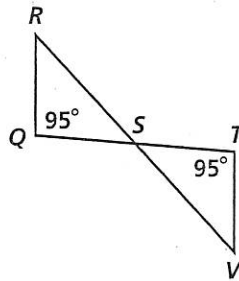


State whether the pairs of figures are congruent. Explain.

8.  $\triangle GHJ$  and  $\triangle IHJ$

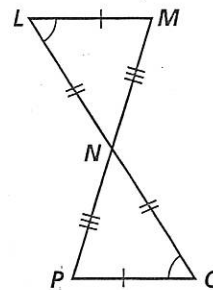


9.  $\triangle QRS$  and  $\triangle TVS$



10. **Developing Proof** Use the information given in the figure. Give a reason that each statement is true.

- a.  $\angle L \cong \angle Q$
- b.  $\angle LNM \cong \angle PNQ$
- c.  $\angle M \cong \angle P$
- d.  $\overline{LM} \cong \overline{QP}$ ,  $\overline{LN} \cong \overline{QN}$ ,  $\overline{MN} \cong \overline{PN}$
- e.  $\triangle LNM \cong \triangle QNP$

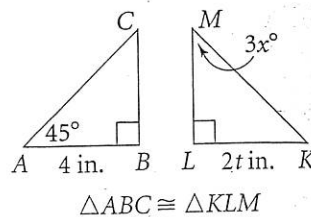


## 4-1 • Guided Problem Solving

**GPS** Student Page 201, Exercise 30

**Algebra** Find the values of the variables.

### Read and Understand



1. What kind of triangles are  $\triangle ABC$  and  $\triangle KLM$ ? \_\_\_\_\_
2. Which angles and side length are given? \_\_\_\_\_
3. What does the statement  $\triangle ABC \cong \triangle KLM$  mean? \_\_\_\_\_
4. What variables are used in this problem? \_\_\_\_\_

### Plan and Solve

5. From the Triangle Angle-Sum Theorem, what is  $m\angle C$ ? \_\_\_\_\_
6. Use the fact that the two triangles are congruent to find  $m\angle K$  \_\_\_\_\_ and  $m\angle M$ . \_\_\_\_\_
7. What equation can be used to solve for  $x$ ? \_\_\_\_\_
8. What is the value of  $x$ ? \_\_\_\_\_
9. Use the fact that the two triangles are congruent to find  $LK$ . \_\_\_\_\_
10. What equation can be used to solve for  $t$ ? \_\_\_\_\_
11. What is the value of  $t$ ? \_\_\_\_\_

### Look Back and Check

12. Compare  $m\angle A$  and  $m\angle C$ , and compare  $m\angle K$  and  $m\angle M$ . Do your findings match the physical appearance of the figure? Explain. \_\_\_\_\_  
\_\_\_\_\_

### Solve Another Problem

13. Suppose  $m\angle A$  is 30. Find the  $m\angle M$ . \_\_\_\_\_