4-1 • Guided Problem Solving

GPS **Student Page 201, Exercise 30**

Algebra Find the values of the variables.

$\triangle ABC \cong \triangle KLM$

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? _____
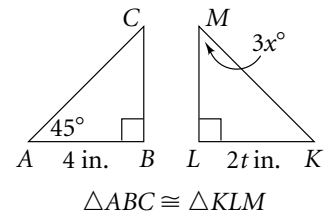
Plan and Solve

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 $m\angle M$. _____