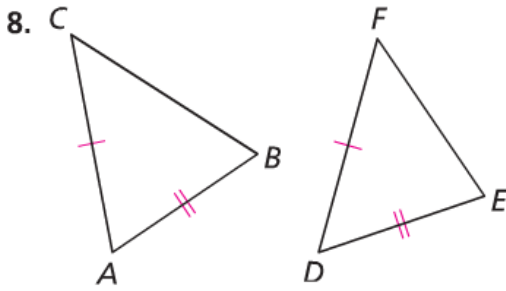


Lesson 2.04 – “On Your Own” Worksheet

Name: _____

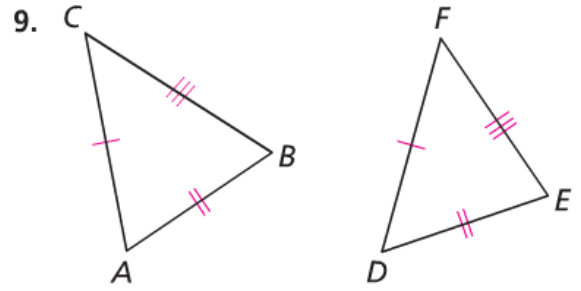
For Exercises 8–12, do each of the following:

- a.) Tell whether the given information is enough to show that the triangles are congruent. The triangles are not necessarily drawn to scale.
- b.) If the given information is enough, list the pairs of corresponding vertices of the two triangles. Then state which triangle congruence postulate guarantees that the triangles are congruent.



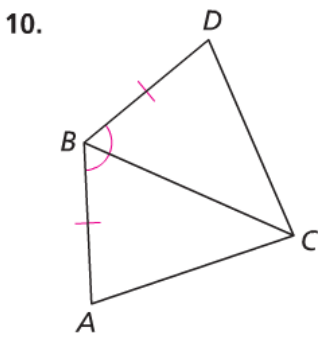
a.)

b.)



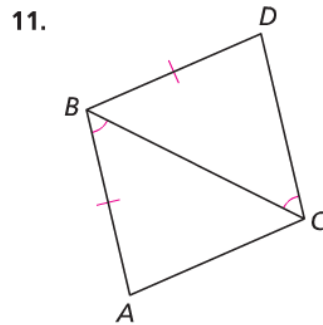
a.)

b.)



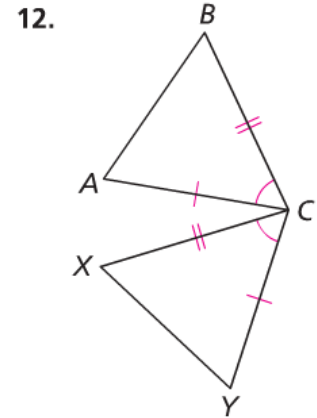
a.)

b.)



a.)

b.)



a.)

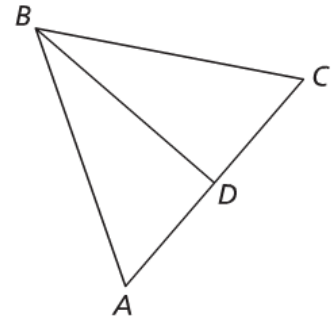
b.)

13. **Standardized Test Prep:** In $\triangle ABC$, \overline{CD} is the bisector of $\angle ACB$. Which of the following conjectures is true? Sketch a figure to help you decide.

Figure

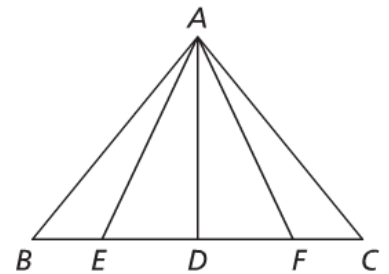
- A. There is not sufficient evidence to prove that $\triangle ACD \cong \triangle BCD$.
- B. $\triangle ACD \cong \triangle BCD$ is true by the Angle-Side-Angle postulate. In each triangle, the side between the two angles is \overline{CD} .
- C. $\triangle ACD \cong \triangle BCD$ is true by the Side-Angle-Side postulate. Angle ACD and $\angle BCD$ are the congruent angles that are between the two pairs of congruent sides.
- D. $\triangle ACD \cong \triangle BCD$ is true by the Side-Side-Side postulate.

14. In the figure below, \overline{BD} is the *perpendicular bisector* of \overline{AC} . Based on this statement, which two triangles are congruent? Explain how you could prove that they are congruent.



15. **Take It Further** In the figure at the right, \overline{AD} is the perpendicular bisector of \overline{BC} . Based on this information, two triangles in the figure are congruent.

For each part, does the given piece of information help you determine that any additional triangles are congruent? If so, state the triangles and the congruence postulate that guarantees their congruence.



- a. $AB = AC$
- b. \overline{AD} is the perpendicular bisector of \overline{EF} .
- c. $\angle EAD \cong \angle FAD$
16. Assume you know that the sum of the measures of the angles in a triangle is 180° . Sketch a figure to help.
- a. In $\triangle ABC$ and $\triangle DEF$, $m\angle A = m\angle D = 72^\circ$, $m\angle B = m\angle E = 47^\circ$, and $AC = DF = 10$ in. Is $\triangle ABC \cong \triangle DEF$? Explain.

Figure

- b. Explain why the AAS triplet guarantees triangle congruence.