

1. \overline{RA} bisects $\angle YRN$ and $\angle YAN$
 1. Given
 2. $\angle YRA \cong \angle NRA$ and $\angle YAR \cong \angle NAR$
 2. Definition of an angle bisector
 3. $RA \cong RA$
 3. Reflexive
 4. $\triangle RAY \cong \triangle RAN$
 4. A.S.A.
- REASONS

- STATEMENTS
7. Sometimes
 8. Always
 9. Never
 10.

GEOMETRY

The Complete Course

Lesson Nine

Congruence Of Triangles

KA8469

Worksheet

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I. VIDEOTAPE FOLLOW-UP QUESTIONS

- I. Introduction.
- II. Definitions.
 - A. congruent
 1. Sides
 2. Angles
 3. Triangles
 - B. Corresponding
 1. Sides
 2. Angle
 - C. Common
 1. Side
 2. Angle
 - D. Opposite
 1. Side
 2. Angle
 - E. Included
 1. Side
 2. Angle

- III. Correspondence of congruent figures.
 - A. Corresponding angles
 - B. Corresponding sides

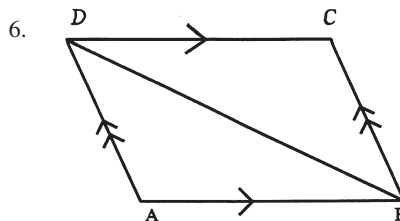
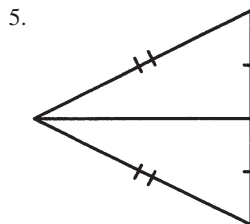
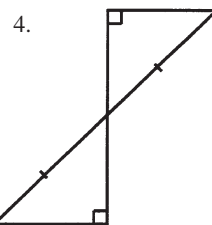
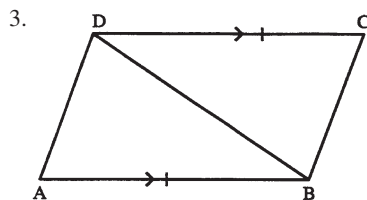
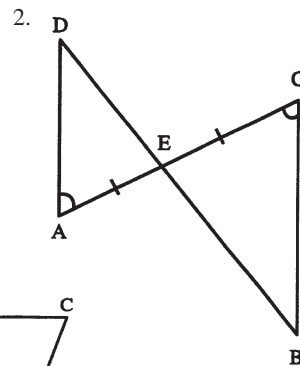
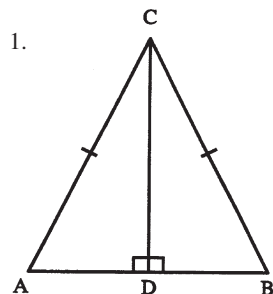
IV. Congruence Postulates.

- A. **SSS Postulate for congruence of triangles:** If the three sides of one triangle are congruent to the corresponding three sides of a second triangle, then the triangles are congruent. (P9-1)
- B. **SAS Postulate for congruence of triangles:** If two sides and the included angle of one triangle are congruent to the two sides and included angle of a second triangle, then the triangles are congruent. (P9-2)
- C. **ASA Postulate for congruence of triangles:** If two angles and the included side of one triangle are congruent to the two angles and included side of a second triangle, then the triangles are congruent. (P9-3)

- V. Proving triangles congruent using the congruence postulates.

II. SUPPLEMENTARY EXERCISES

1-6 State the postulate or theorem that would prove the following pairs of triangle congruent.



7-9 Complete each statement with one of the words "always", "sometimes", or "never".

7. If three angles of a triangle are congruent to three angles of another triangle, then the triangles are _____ congruent.

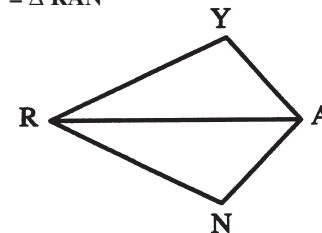
8. If all three sides of a triangle are congruent respectively to all three sides of another triangle, then the triangles are _____ congruent.

9. Given triangle RST with obtuse angle S and $\triangle RST \cong \triangle XYZ$. The $\angle X$ _____ congruent to $\angle S$.

10. Complete the steps in the following proof:

Given: \overline{RA} bisects $\angle YRN$ and $\angle YAN$

Prove: $\triangle RAY \cong \triangle RAN$



STATEMENTS	REASONS
1. \overline{RA} bisects $\angle YRN$ and $\angle YAN$	1.
2. $\angle YRA \cong \angle NRA$ and $\angle YAR \cong \angle NAR$	2.
3. $RA \cong RA$	3.
4. $\triangle RAY \cong \triangle RAN$	4.