

- |  |  |
|--|--|
| 5. $\underline{AB} \cong \underline{CD}$ | 5. $\underline{AB} \cong \underline{CD}$   |
| 4. S.A.S.                                | 4. $\triangle AMB \cong \triangle CMD$   |
| 3. Vertical $\angle$ s are $\cong$       | 3. $\angle AMB \cong \angle CMD$   |
| 2. Definition of a midpoint.             | 2. $\underline{AM} \cong \underline{CM}$ , $\underline{BM} \cong \underline{DM}$ |
| 1. Given                                 | 1. M is the midpoint of $\underline{AD}$ and $\underline{BC}$                    |
| <b>REASONS</b>                           | <b>STATEMENTS</b>  |
| 4. $\underline{CT}$                      |  |
| 3. $\underline{DO}$                      |  |
| 2. $\angle GDO$                          |  |
| 1. $\angle O$                            |  |

- |  |   |
|--|---|
| 8. $\underline{ACTBD}$                                   | 8. If two lines form adjacent $\angle$ s, then the lines are $\perp$ . (T2-5) |
| 7. $\angle 3 \cong \angle 4$                             | 7. CPCTC  |
| 6. $\triangle ABO \cong \triangle ADO$                   | 6. S.A.S.   |
| 5. $\underline{AO} \cong \underline{AO}$                 | 5. Reflexive  |
| 4. $\underline{AB} \cong \underline{AD}$                 | 4. CPCTC  |
| 3. $\triangle ABC \cong \triangle ADC$                   | 3. A.S.A.   |
| 2. $\underline{AC} \cong \underline{AC}$                 | 2. Reflexive  |
| 1. $\angle 1 \cong \angle 2$ , $\angle 5 \cong \angle 6$ | 1. Given  |
| <b>STATEMENTS</b>  | <b>REASONS</b>  |

# GEOMETRY

## The Complete Course

### Lesson Ten

# Variations Of Congruent Triangles

KA8470

## Worksheet

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## I. VIDEOTAPE FOLLOW-UP QUESTIONS

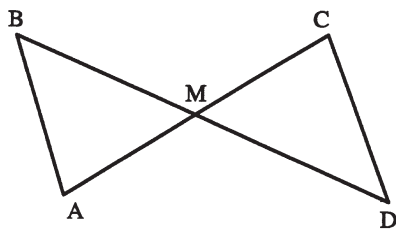
- I. Introduction.
- II. Proving two segments or two angles congruent.
- Identify the two triangles
  - Prove the triangles are congruent.
  - State that the two parts are congruent by CPCTAC.
- III. Proofs using overlapping triangles.
- IV. Other extended uses of proving triangles congruent.
- Prove two triangles congruent to prove a point is a midpoint.
  - Prove two triangles congruent to prove lines parallel.

## II. SUPPLEMENTARY EXERCISES

1-4 If  $\triangle CAT \cong \triangle DOG$ , then;

- $\angle A \cong$  \_\_\_\_\_
- $\angle TCA \cong$  \_\_\_\_\_
- $\overline{CA} \cong$  \_\_\_\_\_
- $\overline{DG} \cong$  \_\_\_\_\_
- Complete the steps in the following proof:

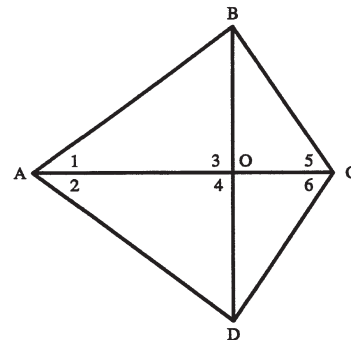
Given:  $M$  is the midpoint of  $\overline{AD}$  and  $\overline{BC}$ .  
 Prove:  $\overline{AB} \cong \overline{CD}$



<u>STATEMENTS</u>	<u>REASONS</u>
1. $M$ is the midpoint of $\overline{AD}$ and $\overline{BC}$	1.
2. $\overline{AM} \cong \overline{CM}$ , $\overline{BM} \cong \overline{DM}$	2.
3. $\angle AMB \cong \angle CMD$	3.
4. $\triangle AMB \cong \triangle CMD$	4.
5. $\overline{AB} \cong \overline{CD}$	5.

6. Complete the steps in the following proof:

Given  $\angle 1 = \angle 2$ ,  $\angle 5 = \angle 6$   
 Prove:  $\overline{AC} \perp \overline{BD}$



<u>STATEMENTS</u>	<u>REASONS</u>
1. $\angle 1 \cong \angle 2$ , $\angle 5 \cong \angle 6$	1.
2. $\overline{AC} \cong \overline{AC}$	2.
3. $\triangle ABC \cong \triangle ADC$	3.
4. $\overline{AB} \cong \overline{AD}$	4.
5. $\overline{AO} \cong \overline{AO}$	5.
6. $\triangle ABO \cong \triangle ADO$	6.
7. $\angle 3 \cong \angle 4$	7.
8. $\overline{AC} \perp \overline{BD}$	8.