GEOMETRY
The Complete Course

Lesson Ten

Variations Of Congruent Triangles

KA8470

Worksheet

Instructors may duplicate the worksheets as needed

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ANSWERS

6.	**STATEMENTS**	**REASONS**
1.	$\angle 1 \cong \angle 2$, $\angle 5 \cong \angle 6$	1. Given
2.	$\overline{AC} \cong \overline{AC}$	2. Reflexive
3.	$\Delta ABC \cong \Delta ADC$	3. A.S.A.
4.	$\overline{AB} \cong \overline{AD}$	4. CPCTC
5.	$\overline{AO} \cong \overline{AO}$	5. Reflexive
6.	$\Delta ABO \cong \Delta ADO$	6. S.A.S.
7.	$\angle 3 \cong \angle 4$	7. CPCTC
8.	$\overline{AC} \perp \overline{BD}$	8. If two lines form $\cong$ adjacent $\angle$s, then the lines are $\perp$. (T2-5)

5	**STATEMENTS**	**REASONS**
1.	M is the midpoint of $\overline{AD}$ and $\overline{BC}$	1. Given
2.	$\overline{AM} \cong \overline{CM}$, $\overline{BM} \cong \overline{DM}$	2. Definition of a midpoint.
3.	$\angle AMB \cong \angle CMD$	3.Vertical $\angle$s are $\cong$
4.	$\Delta AMB \cong \Delta CMD$	4. S.A.S.
5.	$\overline{AB} \cong \overline{CD}$	5. CPCTC

1.	$\angle O$
2.	$\angle GDO$
3.	$\overline{DO}$
4.	$\overline{CT}$

I. VIDEOTAPE FOLLOW-UP QUESTIONS

I. Introduction.

II. Proving two segments or two angles congruent.
- A. Identify the two triangles
- B. Prove the triangles are congruent.
- C. State that the two parts are congruent by CPCTAC.

III. Proofs using overlapping triangles.

IV. Other extended uses of proving triangles congruent.
- A. Prove two triangles congruent to prove a point is a midpoint.
- B. Prove two triangles congruent to prove lines parallel.

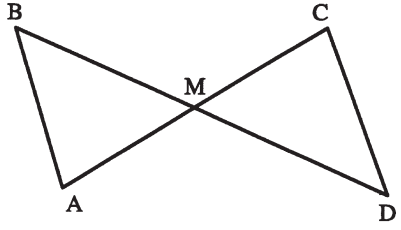
II. SUPPLEMENTARY EXERCISES

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

1. $\angle A \cong$ _____
2. $\angle TCA \cong$ _____
3. $\overline{CA} \cong$ _____
4. $\overline{DG} \cong$ _____

5. Complete the steps in the following proof:

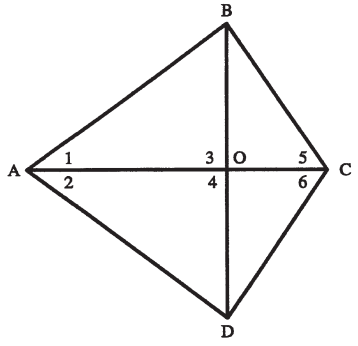
Given: M is the midpoint of $\overline{AD}$ and $\overline{BC}$.
Prove: $\overline{AB} \cong \overline{CD}$



STATEMENTS	REASONS
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. $\Delta AMB \cong \Delta CMD$	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: $\overline{AC} \perp \overline{BD}$



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4. $\overline{AB} \cong \overline{AD}$	4.
5. $\overline{AO} \cong \overline{AO}$	5.
6. $\Delta ABO \cong \Delta ADO$	6.
7. $\angle 3 \cong \angle 4$	7.
8. $\overline{AC} \perp \overline{BD}$	8.