

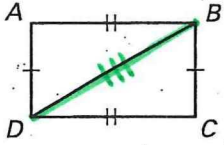
LESSON
4.3

Practice
For use with pages 233–239

SSS

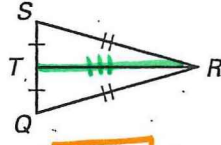
Decide whether the congruence statement is true. Explain your reasoning.

1. $\triangle ABD \cong \triangle CDB$ ✓



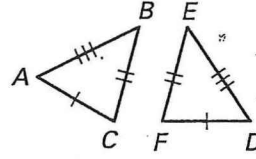
SSS

2. $\triangle RST \cong \triangle RQT$ ✓



SSS

3. $\triangle ABC \cong \triangle DEF$ ✓



SSS

Use the given coordinates to determine if $\triangle ABC \cong \triangle DEF$.

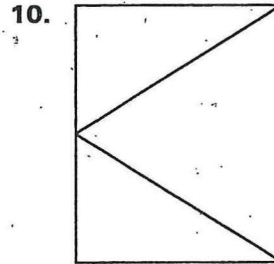
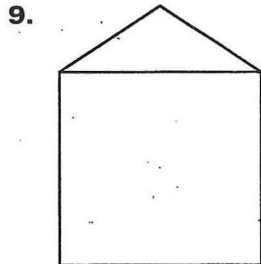
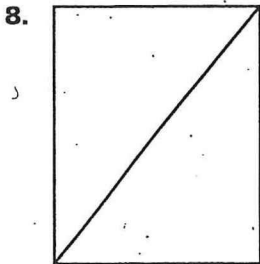
4. $A(1, 2), B(4, -3), C(2, 5), D(4, 7), E(7, 2), F(5, 10)$

5. $A(1, 1), B(4, 0), C(7, 5), D(4, -5), E(6, -6), F(9, -1)$

6. $A(2, -2), B(5, 1), C(4, 8), D(7, 5), E(10, 8), F(9, 13)$

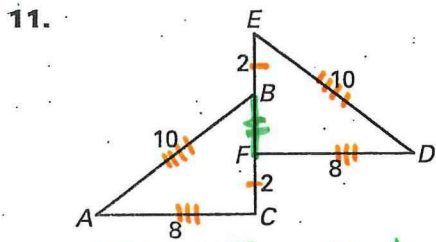
7. $A(-3, 0), B(6, 2), C(-1, 9), D(4, -10), E(13, -8), F(6, -1)$

Decide whether the figure is stable. Explain your reasoning.

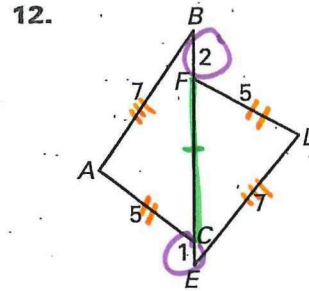


LESSON 4.3 Practice *continued*
For use with pages 233–239

Determine whether $\triangle ABC \cong \triangle DEF$. Explain your reasoning.

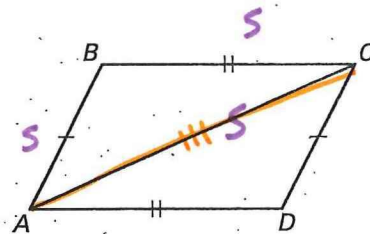


$\overline{BF} \cong \overline{BF}$ Reflexive
 $\triangle ABC \cong \triangle DEF$ **SSS**



$\overline{FC} \cong \overline{FC}$ Reflexive
NOT \cong $\overline{BF} \neq \overline{CE}$

13. **Proof** Complete the proof.
GIVEN: $\overline{AB} \cong \overline{CD}$, $\overline{BC} \cong \overline{AD}$
PROVE: $\triangle ABC \cong \triangle CDA$



Reasons

- SSS
- SAS
- ASA
- AAS
- HL

Statements

1. $\overline{AB} \cong \overline{CD}$
2. $\overline{BC} \cong \overline{AD}$
3. $\overline{AC} \cong \overline{AC}$
4. $\triangle ABC \cong \triangle CDA$

Reasons

1. ? Given
2. ? Given
3. ? Reflexive
4. ? SSS

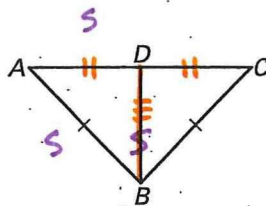
LESSON
4.3

Practice *continued*
For use with pages 233–239

14. Proof Complete the proof.

GIVEN: $\overline{AB} \cong \overline{CB}$, D is the midpoint of \overline{AC} .

PROVE: $\triangle ABD \cong \triangle CBD$



Statements

Reasons

1. $\overline{AB} \cong \overline{CB}$

1. ? *Given*

2. D is the midpoint of \overline{AC} .

2. ? *Given*

3. $\overline{AD} \cong \overline{CD}$

3. ? *Def. of mp.*

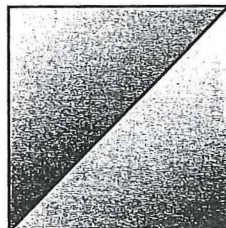
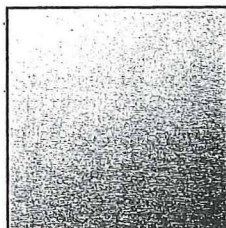
4. $\overline{BD} \cong \overline{BD}$

4. ? *Reflexive*

5. $\triangle ABD \cong \triangle CBD$

5. ? *SSS*

15. Picture Frame The backs of two different picture frames are shown below. Which picture frame is stable? *Explain* your reasoning.



LESSON 4.4 Practice
For use with pages 240-247

SAS, HL

→ angle formed by the 2 sides

Use the diagram to name the **included angle** between the given pair of sides.

1. \overline{AB} and \overline{BC}

$\angle ABC$

3. \overline{AB} and \overline{BD}

$\angle ABD$

5. \overline{DA} and \overline{AB}

$\angle DAB$ or $\angle A$

2. \overline{BC} and \overline{CD}

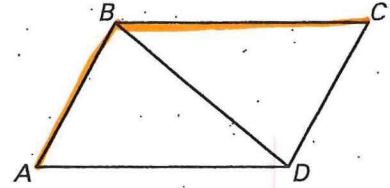
$\angle BCD$ or $\angle C$

4. \overline{BD} and \overline{DA}

$\angle BDA$

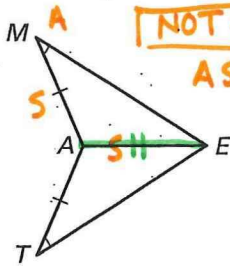
6. \overline{CD} and \overline{DB}

$\angle CDB$



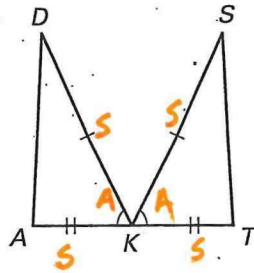
Decide whether enough information is given to prove that the triangles are congruent using the **SAS** Congruence Postulate.

7. $\triangle MAE, \triangle TAE$

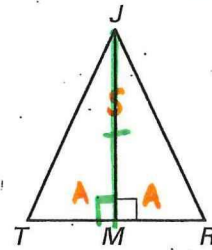


NOT \cong
ASS

8. $\triangle DKA, \triangle SKT$ by SAS



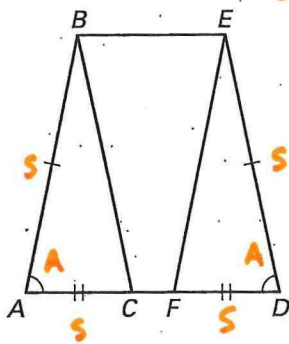
9. $\triangle JRM, \triangle JTM$ NOT \cong



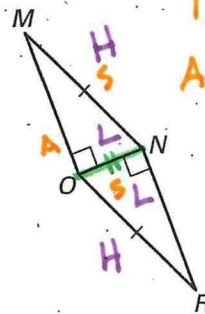
AS

Decide whether enough information is given to prove that the triangles are congruent. If there is enough information, state the congruence postulate or theorem you would use.

10. $\triangle ABC, \triangle DEF$ by SAS

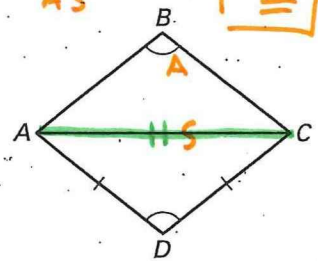


11. $\triangle MNO, \triangle RON$ HL



ASS, check for \perp and HL

12. $\triangle ABC, \triangle ADC$ NOT \cong

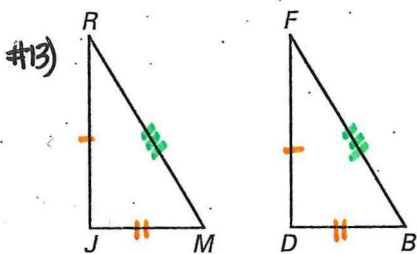


LESSON
4.4

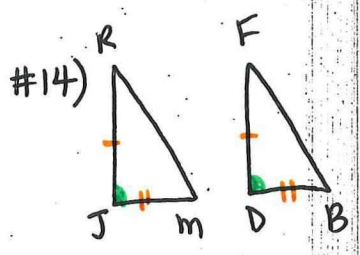
Practice *continued*
For use with pages 240-247

State the third congruence that must be given to prove that $\triangle JRM \cong \triangle DFB$ using the indicated postulate.

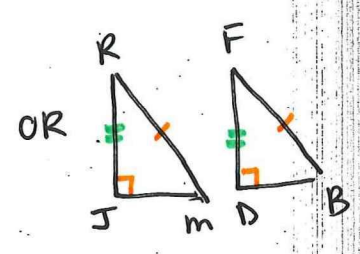
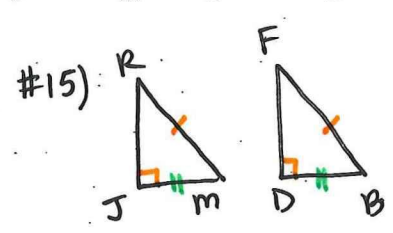
13. GIVEN: $\overline{JR} \cong \overline{DF}$, $\overline{JM} \cong \overline{DB}$, $\angle R \cong \angle F$
Use the SSS Congruence Postulate.



14. GIVEN: $\overline{JR} \cong \overline{DF}$, $\overline{JM} \cong \overline{DB}$, $\angle J \cong \angle D$
Use the SAS Congruence Postulate.
included angle



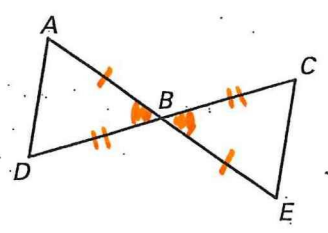
15. GIVEN: $\overline{RM} \cong \overline{FB}$, $\angle J$ is a right angle and $\angle J \cong \angle D$, $\overline{JM} \cong \overline{DB}$
Use the HL Congruence Theorem.
or $\overline{RJ} \cong \overline{FD}$



16. **Proof** Complete the proof.

GIVEN: B is the midpoint of \overline{AE} .
 B is the midpoint of \overline{CD} .

PROVE: $\triangle ABD \cong \triangle EBC$

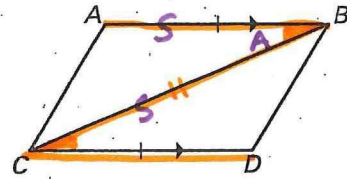


Statements

Reasons

1. B is the midpoint of \overline{AE} .
2. $\overline{AB} \cong \overline{BE}$
3. B is the midpoint of \overline{CD} .
4. $\overline{BD} \cong \overline{BC}$
5. $\angle ABD \cong \angle EBC$
6. $\triangle ABD \cong \triangle EBC$

1. Given
2. Definition of midpoint
3. Given
4. Definition of midpoint
5. VA
6. SAS

LESSON
4.4**Practice** *continued*
For use with pages 240-247**17. Proof** Complete the proof.GIVEN: $\overline{AB} \parallel \overline{CD}$, $\overline{AB} \cong \overline{CD}$ PROVE: $\triangle ABC \cong \triangle DCB$ **Statements**

1. $\overline{AB} \parallel \overline{CD}$
2. $\angle ABC \cong \angle DCB$
3. $\overline{AB} \cong \overline{CD}$
4. $\overline{CB} \cong \overline{CB}$
5. $\triangle ABC \cong \triangle DCB$

Reasons

1. ? Given
2. ? AI
3. ? Given
4. ? Reflexive
5. ? SAS

ASA, AAS

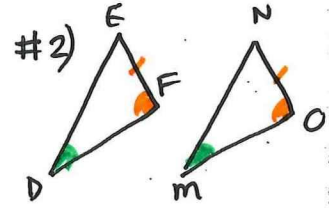
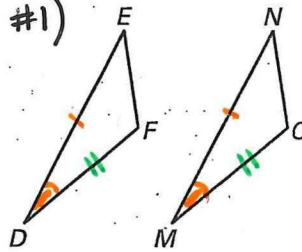
LESSON
4.5

Practice

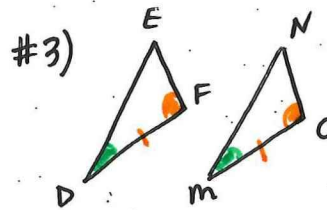
For use with pages 249-255

State the third congruence that is needed to prove that $\triangle DEF \cong \triangle MNO$ using the given postulate or theorem. S

1. GIVEN: $\overline{DE} \cong \overline{MN}$, $\angle M \cong \angle D$, $\overline{DF} \cong \overline{MO}$
Use the SAS Congruence Postulate.
↳ included angle



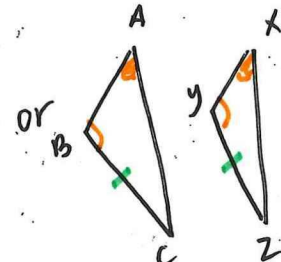
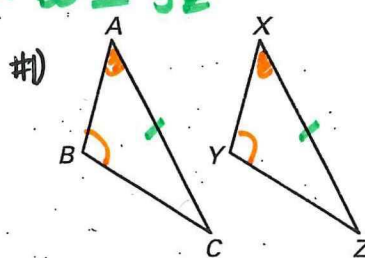
2. GIVEN: $\overline{FE} \cong \overline{ON}$, $\angle F \cong \angle O$, $\overline{FD} \cong \overline{OM}$
Use the AAS Congruence Theorem.



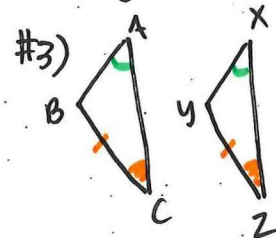
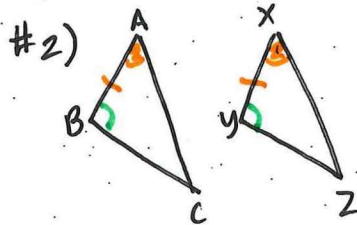
3. GIVEN: $\overline{DF} \cong \overline{MO}$, $\angle F \cong \angle O$, $\overline{FD} \cong \overline{OM}$
Use the ASA Congruence Postulate.
↳ included side

State the third congruence that is needed to prove that $\triangle ABC \cong \triangle XYZ$ using the given postulate or theorem. S

4. GIVEN: $\angle A \cong \angle X$, $\angle B \cong \angle Y$, $\overline{AC} \cong \overline{XZ}$ or $\overline{BC} \cong \overline{YZ}$
Use the AAS Congruence Theorem.
↳ non-included side

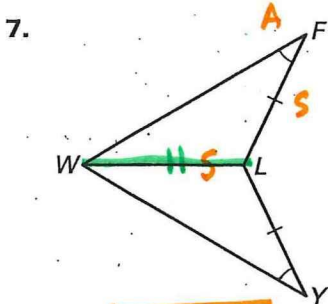


5. GIVEN: $\angle A \cong \angle X$, $\overline{AB} \cong \overline{XY}$, $\angle B \cong \angle Y$
Use the ASA Congruence Postulate.
↳ included side

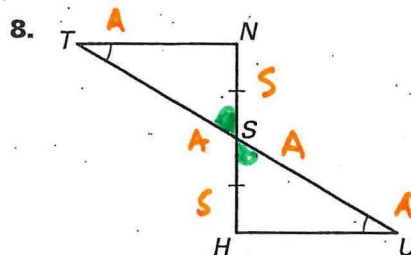


6. GIVEN: $\overline{BC} \cong \overline{YZ}$, $\angle C \cong \angle Z$, $\angle A \cong \angle X$
Use the AAS Congruence Theorem.

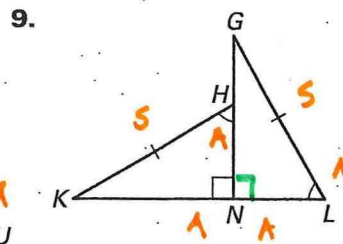
Is it possible to prove that the triangles are congruent? If so, state the postulate(s) or theorem(s) you would use.



NOT \cong
ASS



$\triangle TNS \cong \triangle UHS$ AAS



$\triangle KNL \cong \triangle GNL$ AAS

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LESSON
4.5
Practice *continued*
 For use with pages 249–255

Tell whether you can use the given information to determine whether $\triangle JRM \cong \triangle XYZ$. Explain your reasoning.

10. $\overline{JM} \cong \overline{XZ}$, $\angle M \cong \angle Z$, $\angle R \cong \angle Y$

11. $\overline{JM} \cong \overline{XZ}$, $\overline{JR} \cong \overline{XY}$, $\angle J \cong \angle X$

12. $\angle J \cong \angle X$, $\angle M \cong \angle Z$, $\angle R \cong \angle Y$

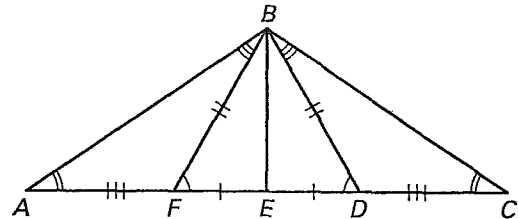
13. $\angle M \cong \angle Z$, $\angle R \cong \angle Y$, $\overline{JM} \cong \overline{XY}$

Explain how you can prove that the indicated triangles are congruent using the given postulate or theorem.

14. $\triangle BEF \cong \triangle BED$ by SAS

15. $\triangle ADB \cong \triangle CFB$ by ASA

16. $\triangle AFB \cong \triangle CDB$ by AAS



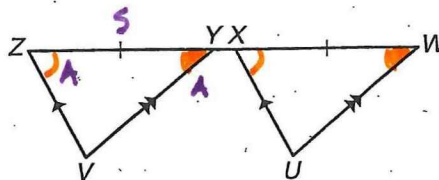
LESSON
4.5

Practice *continued*
For use with pages 249–255

17. **Proof** Complete the proof.

GIVEN: $\overline{WU} \parallel \overline{YV}$, $\overline{XU} \parallel \overline{ZV}$, $\overline{WX} \cong \overline{YZ}$

PROVE: $\triangle WXU \cong \triangle YZV$



Statements

Reasons:

1. $\overline{WU} \parallel \overline{YV}$

1. ? **Given**

2. $\angle UWX \cong \angle VYZ$

2. ? **CA**

3. $\overline{XU} \parallel \overline{ZV}$

3. ? **Given**

4. $\angle UXW \cong \angle VZY$

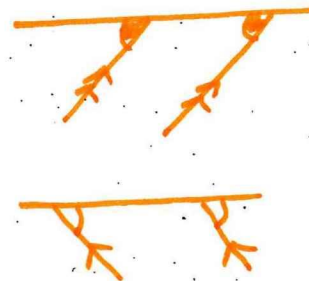
4. ? **CA**

5. $\overline{WX} \cong \overline{YZ}$

5. ? **Given**

6. $\triangle WXU \cong \triangle YZV$

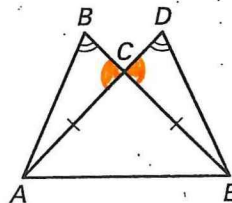
6. ? **ASA**



18. **Proof** Write a proof.

GIVEN: $\angle B \cong \angle D$, $\overline{AC} \cong \overline{DC}$

PROVE: $\triangle ABC \cong \triangle EDC$



Statements

Reasons

1. $\angle B \cong \angle D$

1. **Given**

2. $\overline{AC} \cong \overline{DC}$

2. **Given**

3. $\angle ACB \cong \angle ECD$

3. **VA**

4. $\triangle ABC \cong \triangle EDC$

4. **AAS**