

LESSON 4.6

Practice

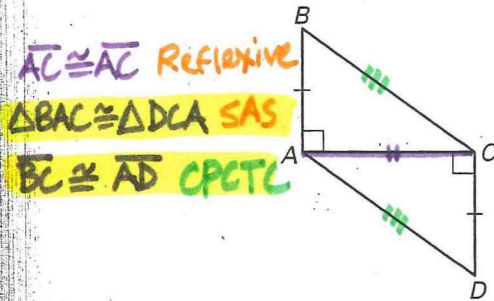
For use with pages 256-263

Tell which triangles you can show are congruent in order to prove the statement. What postulate or theorem would you use?

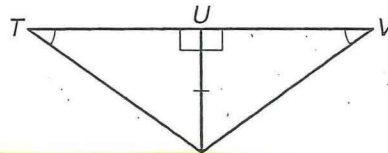
1. $\overline{BC} \cong \overline{AD}$

2. $\angle TSU \cong \angle VSU$

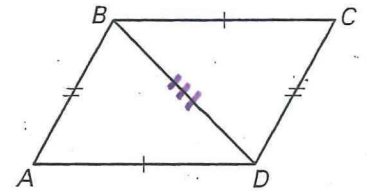
3. $\angle ADB \cong \angle CBD$



$\overline{AC} \cong \overline{AC}$ Reflexive
 $\triangle BAC \cong \triangle DAC$ SAS
 $\overline{BC} \cong \overline{AD}$ CPCTC



$\triangle TUS \cong \triangle VUS$ AAS
 $\angle TSU \cong \angle VSU$ CPCTC

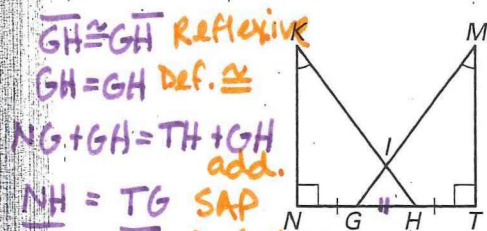


$\overline{BD} \cong \overline{BD}$ Reflexive
 $\triangle ABD \cong \triangle CDB$ SSS
 $\angle ADB \cong \angle CBD$ CPCTC

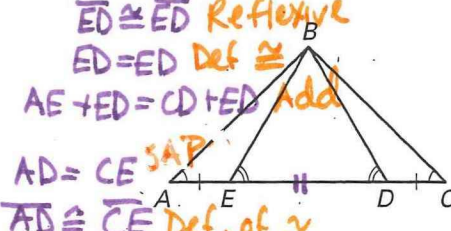
4. $\angle KHN \cong \angle MGT$

5. $\overline{BD} \cong \overline{BE}$

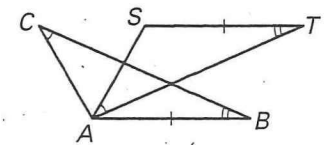
6. $\overline{BC} \cong \overline{AT}$



$\overline{KH} \cong \overline{KH}$ Reflexive
 $\overline{KH} = \overline{KH}$ Def. of \cong
 $\overline{NH} + \overline{GH} = \overline{TH} + \overline{GH}$ add.
 $\overline{NH} = \overline{TH}$ SAP
 $\overline{NH} \cong \overline{TH}$ Def. of \cong
 $\triangle KHN \cong \triangle MGT$ AAS
 $\angle KHN \cong \angle MGT$ CPCTC



$\overline{ED} \cong \overline{ED}$ Reflexive
 $\overline{ED} = \overline{ED}$ Def. of \cong
 $\overline{AE} + \overline{ED} = \overline{CD} + \overline{ED}$ Add.
 $\overline{AD} = \overline{CE}$ SAP
 $\overline{AD} \cong \overline{CE}$ Def. of \cong
 $\triangle ABD \cong \triangle CBE$ ASA
 $\overline{BD} \cong \overline{BE}$ CPCTC

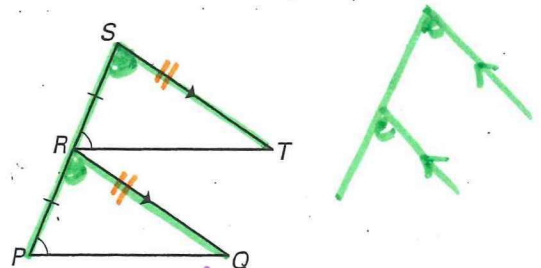
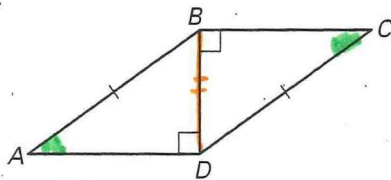


$\triangle SAT \cong \triangle ACB$ AAS
 $\overline{BC} \cong \overline{AT}$ CPCTC

Use the diagram to write a plan for a proof.

7. PROVE: $\angle DAB \cong \angle BCD$

8. PROVE: $\overline{ST} \cong \overline{RQ}$



Statements	Reasons
1. $\overline{AB} \cong \overline{CD}$	1. Given
2. $\angle CBD$ and $\angle ADB$ are \perp s	2. Given
3. $\angle CBD \cong \angle ADB$	3. $\perp \cong$ Thm.
4. $\overline{BD} \cong \overline{BD}$	4. Reflexive
5. $\triangle ADB \cong \triangle CBD$	5. HL
6. $\angle DAB \cong \angle BCD$	6. CPCTC

Statements	Reasons
1. $\overline{SR} \cong \overline{RP}$	1. Given
2. $\angle SRT \cong \angle RPQ$	2. Given
3. $\overline{ST} \parallel \overline{RQ}$	3. Given
4. $\angle RST \cong \angle PRQ$	4. CA
5. $\triangle RQP \cong \triangle STR$	5. ASA
6. $\overline{ST} \cong \overline{RQ}$	6. CPCTC

LESSON
4.6**Practice** *continued*
For use with pages 256–263

Use the vertices of $\triangle ABC$ and $\triangle DEF$ to show that $\angle A \cong \angle D$.
Explain your reasoning.

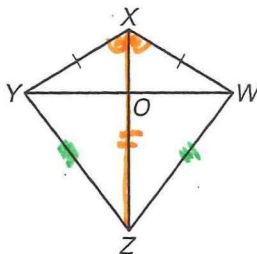
9. $A(1, 2), B(4, -3), C(2, 5), D(4, 7), E(7, 2), F(5, 10)$

10. $A(2, 3), B(2, 9), C(6, 6), D(8, 5), E(8, 11), F(12, 8)$

11. **Proof** Complete the proof.

GIVEN: $\overline{YX} \cong \overline{WX}$
 \overline{ZX} bisects $\angle YXW$.

PROVE: $\overline{YZ} \cong \overline{WZ}$



Statements

1. $\overline{YX} \cong \overline{WX}$

2. \overline{ZX} bisects $\angle YXW$.

3. $\angle YXZ \cong \angle WXZ$

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

5. $\triangle YXZ \cong \triangle WXZ$

6. $\overline{YZ} \cong \overline{WZ}$

Reasons

1. ? Given

2. ? Given

3. ? Def. of \angle bisector

4. ? Reflexive

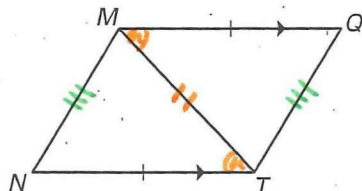
5. ? SAS

6. ? CPCTC

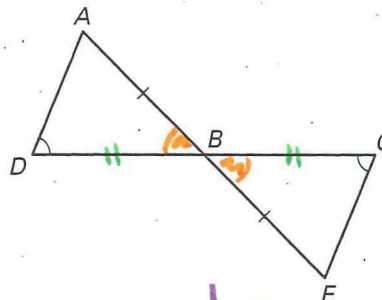
LESSON 4.6 Practice *continued*
For use with pages 256–263

Use the information given in the diagram to write a proof.

12. PROVE: $\overline{MN} \cong \overline{TQ}$



13. PROVE: $\overline{DB} \cong \overline{CB}$



Statements	Reasons
1. $\overline{MQ} \cong \overline{TN}$	1. Given
2. $\overline{MQ} \parallel \overline{TN}$	2. Given
3. $\angle QMT \cong \angle NTM$	3. AI
4. $\overline{MT} \cong \overline{MT}$	4. Reflexive
5. $\triangle MQT \cong \triangle TNM$	5. SAS
6. $\overline{MN} \cong \overline{TQ}$	6. CPCTC

Statements	Reasons
1. $\overline{AB} \cong \overline{EB}$	1. Given
2. $\angle D \cong \angle C$	2. Given
3. $\angle ABD \cong \angle EBC$	3. VA
4. $\triangle ABD \cong \triangle ECB$	4. AAS
5. $\overline{DB} \cong \overline{CB}$	5. CPCTC