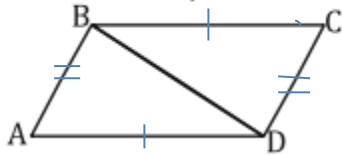


1. Complete the proof to the right.

Given: $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{CB}$



Prove: $\angle BAD \cong \angle DCB$

Statement	Reason
$\overline{AB} \cong \overline{CD}$	Given
$\overline{AD} \cong \overline{CB}$	Given
$\overline{BD} \cong \overline{DB}$	Reflexive
$\triangle BAD \cong \triangle DCB$	SSS
$\angle BAD \cong \angle DCB$	CPCTC

The first thing I did was to mark the given information on the shapes. This helped me realize that I had two of the three sides needed for SSS congruence. Then I realized that the shared side \overline{BD} was the third side needed to establish that the two triangles were congruent.

Once I had established the congruence of the triangles, I used that to prove the corresponding angles - $\angle BAD$ and $\angle DCB$ were congruent.

2. State the postulate, if any, that show the two triangles below are congruent. If we can justify they are congruent finish the congruence statement.

<p>a)</p> <p>Postulate: <u>not enough info</u></p> <p>$\triangle AWT \cong \triangle$ _____</p>	<p>b)</p> <p>Postulate: <u>SAS</u></p> <p>$\triangle ABD \cong \triangle CBD$</p>	<p>c)</p> <p>Postulate: <u>ASA</u></p> <p>$\triangle STV \cong \triangle UVT$</p>
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a) I realized that what was given was Side-Side-Angle which is not one of the five triangle congruence postulates. I checked to see if the triangles were right triangles so that I could use Hypotenuse-Leg congruence, but they were not marked as such, so I concluded there was not enough information.

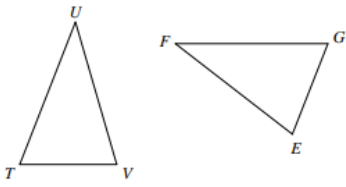
b) I was given a side and an angle that were congruent so I looked for either another side or another angle that might be congruent. That is when I realized triangle ABD shared a side, \overline{BD} , with triangle CBD. With the shared side being congruent, I was able to establish triangle congruence with Side-Angle-Side.

c) I was given that two angles were congruent so I realized I might use Angle-Angle-Side or Angle-Side-Angle. Either way I needed to find a congruent side. Again here I saw that the triangles shared a side so that gave me the third piece I needed. In this case the congruent side, \overline{TV} , was located between the two given congruent angles so Angle-Side-Angle was the congruence postulate that applied.

Additional Practice on back----->

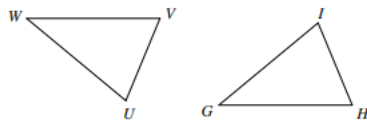
Given the two triangles are congruent, use CPCTC to complete the congruence statements.

1)
 $\triangle TUV \cong \triangle GFE$



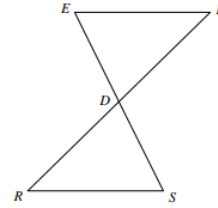
$\angle U \cong ?$

2)
 $\triangle WVU \cong \triangle GHI$



$\angle W \cong ?$

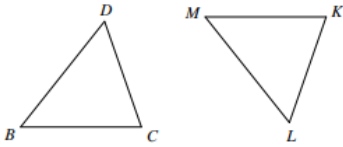
3)
 $\triangle DEF \cong \triangle DSR$



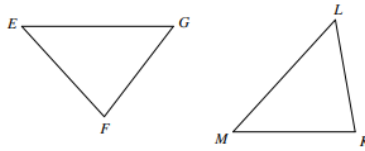
$\angle F \cong ?$

Mark the angles and sides that are congruent for the below pairs of congruent triangles.

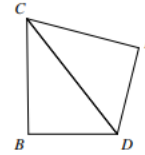
4)
 $\triangle BDC \cong \triangle MLK$



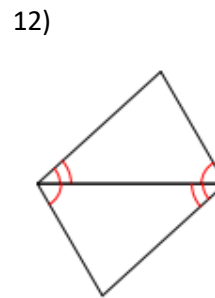
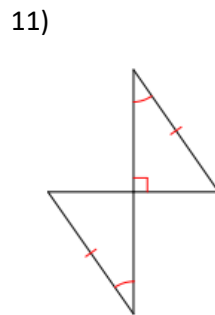
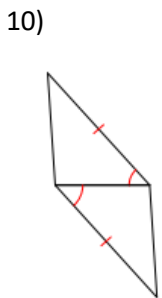
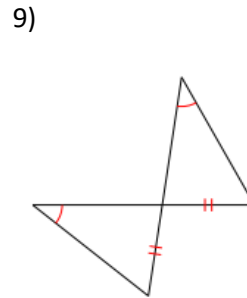
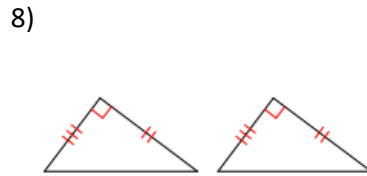
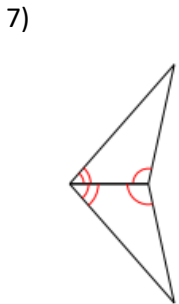
5)
 $\triangle GFE \cong \triangle LKM$



6)
 $\triangle CDB \cong \triangle CDL$

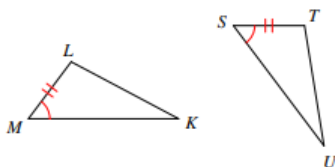


State if the two triangles are congruent. If they are, state how you know. (For example: ASA, HL, etc...)

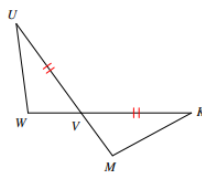


State what additional information is required to prove the triangles are congruent with the theorem given.

13)
 ASA



14)
 SAS



15)
 AAS

