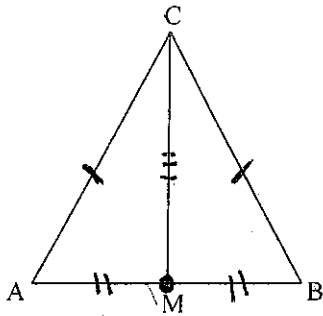


Answer Key

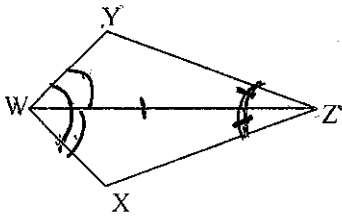
Proving Triangle Congruent: In class exercises.

1. Given: $AC = BC$, M is the midpoint of AB
 Prove: $\triangle ACM \cong \triangle BCM$



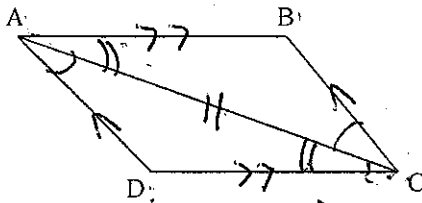
state.	Reasons
1. $AC = BC$ M is Midpt AB	1. given
2. $\overline{AM} \cong \overline{BM}$	2. def. of Midpt
3. $\overline{CM} \cong \overline{CM}$	3. Reflexive Prop.
4. $\triangle ACM \cong \triangle BCM$	4. SSS

2. Given: WZ bisects $\angle XZY$ and $\angle XWY$
 Prove: $\triangle WZX \cong \triangle WZY$



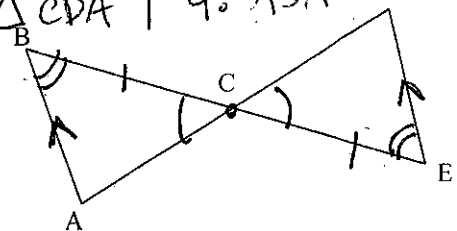
st.	R.
1. WZ bisects $\angle XZY$ and $\angle XWY$	1. given
2. $\angle XZW \cong \angle YZW$ $\angle XWZ \cong \angle YWZ$	2. def. of \angle bisector
3. $\overline{WZ} \cong \overline{WZ}$	3. Reflexive Prop.
4. $\triangle WZX \cong \triangle WZY$	4. ASA

3. Given: $AD \parallel BC$, $DC \parallel BA$
 Prove: $\triangle ABC \cong \triangle CDA$



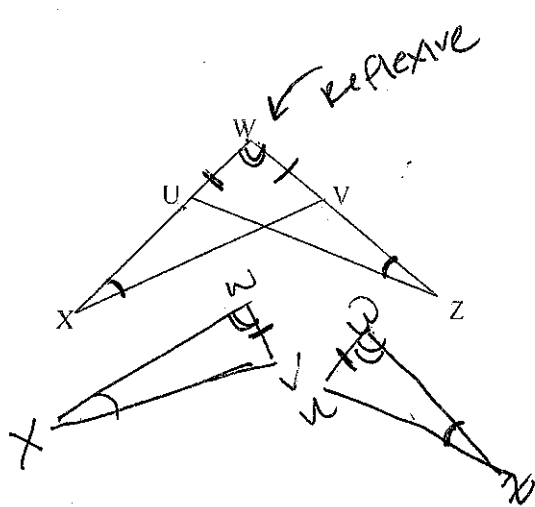
S	R
1. $AD \parallel BC$ $DC \parallel BA$	1. Given
2. $\angle BCA \cong \angle DAC$ $\angle BAC \cong \angle DCA$	2. Alt. Int. Angles
3. $\overline{AC} \cong \overline{AC}$	3. Reflexive Prop.
4. $\triangle ABC \cong \triangle CDA$	4. ASA

4. Given: $AB \parallel DE$, C is the midpoint of BE
 Prove: $\triangle ABC \cong \triangle DEC$



1. $AB \parallel DE$ C is Midpt	1. given
2. $\overline{BC} \cong \overline{CE}$	2. def. Midpt
3. $\angle ACB \cong \angle DCE$	3. vertical
4. $\angle B \cong \angle E$	4. Alt. Int. Angles
5. $\triangle ABC \cong \triangle DEC$	5. ASA

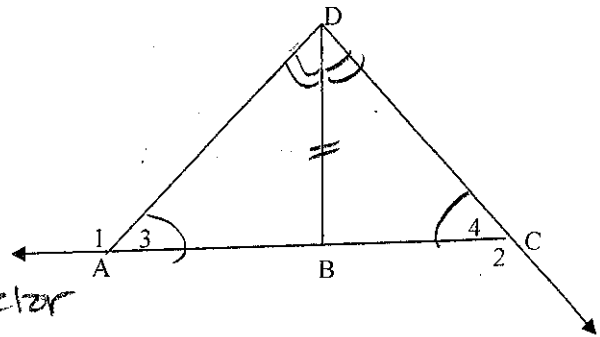
5. Given: $VW = UW, \angle X = \angle Z$
 Prove: $\triangle XWV \cong \triangle ZWU$



3 steps

- | | |
|--|--------------|
| 1. $VW = UW$
$\angle X = \angle Z$ | 1. given |
| 2. $\angle W \cong \angle W$ | 2. reflexive |
| 3. $\triangle XWV \cong \triangle ZWU$ | 3. AAS |

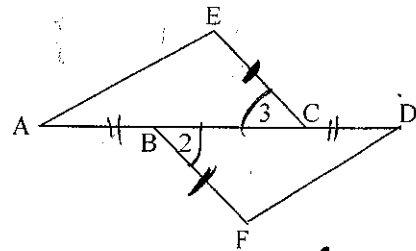
6. Given: $\angle 3 \cong \angle 4, BD$ bisects $\angle ADC$
 Prove: $\triangle ABD \cong \triangle CBD$



4

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|---|------------------------------|
| 1. $\angle 3 \cong \angle 4$
BD bisects $\angle ADC$ | 1. given |
| 2. $\angle ADB \cong \angle CDB$ | 2. def. of \angle bisector |
| 3. $DB \cong DB$ | 3. reflexive |
| | 4. AAS |

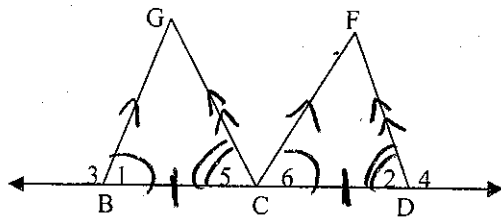
7. Given: $AC = BD, \angle 3 = \angle 2, EC = FB$
 Prove: $\triangle AEC \cong \triangle DFB$



2

- | | |
|--|----------|
| 1. $AC = BD$
$\angle 3 = \angle 2$
$EC = FB$ | 1. given |
| 2. $\triangle AEC \cong \triangle DFB$ | 2. SAS |

8. Given: $BG \parallel CF, CG \parallel FD, C$ is the midpoint of BD
 Prove: $\triangle BGC \cong \triangle CFD$



- | | |
|--|-------------------------------|
| 1. $BG \parallel CF$
$CG \parallel FD$
C is midpt BD | 1. given |
| 2. $\angle 1 \cong \angle 6$
$\angle 5 \cong \angle 2$ | 2. correspond. Angles \cong |
| 3. $\overline{BC} \cong \overline{DC}$ | 3. def. of midpt |
| 4. $\triangle BGC \cong \triangle CFD$ | 4. ASA |

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