

12) Given: \overline{MP} and \overline{NQ} bisect each other at O .
 Prove: $\triangle MNO \cong \triangle PQO$

Statement	Reason
1) \overline{MP} and \overline{NQ} bisect each other at O .	1) Given
2) $\overline{MO} \cong \overline{PO}$ $\overline{NO} \cong \overline{OQ}$	2) Def. of a seg. bisector
3) $\angle 1 \cong \angle 2$	3) Vertical angles are congruent
4) $\triangle MNO \cong \triangle PQO$	4) SAS \cong SAS

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13) Given: $\overline{ZW} \cong \overline{YX}$,
 $\overline{WX} \cong \overline{ZY}$
 Prove: $\triangle ZWX \cong \triangle XYZ$

Statement	Reason
1) $\overline{ZW} \cong \overline{YX}$	1) Given
2) $\overline{WX} \cong \overline{ZY}$	2) Given
3) $\overline{ZX} \cong \overline{ZX}$	3) Reflexive Prop.
4) $\triangle ZWX \cong \triangle XYZ$	4) SSS \cong SSS

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14) Given: $\overline{MN} \cong \overline{RO}$,
 $\overline{MQ} \cong \overline{PO}$,
 $\overline{PQ} \cong \overline{RN}$
 Prove: $\triangle POR \cong \triangle QMN$

Statement	Reason
1) $\overline{MN} \cong \overline{RO}$	1) Given
2) $\overline{MQ} \cong \overline{PO}$	2) Given
3) $\overline{PQ} \cong \overline{RN}$	3) Given
4) $\overline{QR} \cong \overline{QR}$	4) Reflexive prop.
5) $\overline{PQ} + \overline{QR} \cong \overline{NR} + \overline{NQ}$ $\overline{PR} \cong \overline{NQ}$	5) Addition Postulate
6) $\triangle POR \cong \triangle QMN$	6) SSS \cong SSS

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15) Given: \overline{AD} is a median,
 $\overline{CA} \cong \overline{AB}$
 Prove: $\triangle ACD \cong \triangle ABD$

Statement	Reason
1) \overline{AD} is a median	1) Given
2) $\overline{CA} \cong \overline{AB}$	2) Given
3) D is the midpt of CB	3) Def. of a median
4) $\overline{CD} \cong \overline{DB}$	4) Def. of a midpt
5) $\overline{AD} \cong \overline{AD}$	5) Reflexive Prop.
6) $\triangle ACD \cong \triangle ABD$	6) SSS \cong SSS

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16) Given: P is the midpoint of \overline{MO} ,
 $\angle NPM \cong \angle NPO$
 Prove: $\triangle MPN \cong \triangle OPN$

Statement	Reason
1) P is the midpoint of \overline{MO}	1) Given
2) $\angle NPM \cong \angle NPO$	2) Given
3) $\overline{MP} \cong \overline{PO}$	3) Def. of midpt
4) $\overline{NP} \cong \overline{NP}$	4) Reflexive Prop.
5) $\triangle MPN \cong \triangle OPN$	5) SAS \cong SAS

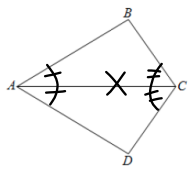
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17) Given: G is the midpoint of \overline{EI} ,
 $\overline{EF} \cong \overline{IH}$,
 $\overline{GF} \cong \overline{GH}$
 Prove: $\triangle EFG \cong \triangle IHG$

Statement	Reason
1) G is the midpoint of \overline{EI}	1) Given
2) $\overline{EF} \cong \overline{IH}$	2) Given
3) $\overline{GF} \cong \overline{GH}$	3) Given
4) $\overline{EG} \cong \overline{GI}$	4) Def. of Midpoint
5) $\triangle EFG \cong \triangle IHG$	5) SSS \cong SSS

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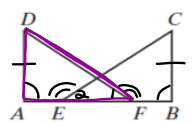
20) Given: $\angle BAC \cong \angle DAC$,
 $\angle BCA \cong \angle DCA$
 Prove: $\triangle ABC \cong \triangle ADC$



Statement	Reason
1) $\angle BAC \cong \angle DAC$	1) Given
2) $\angle BCA \cong \angle DCA$	2) Given
3) $\overline{AC} \cong \overline{AC}$	3) Reflexive Prop.
4) $\triangle ABC \cong \triangle ADC$	4) ASA \cong ASA

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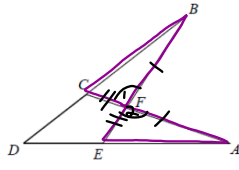
25) Given: $\overline{BC} \cong \overline{AD}$
 $\angle DAF \cong \angle CBE$
 $\angle DFB \cong \angle CEA$
 Prove: $\triangle ADF \cong \triangle BCE$



Statement	Reason
1) $\overline{BC} \cong \overline{AD}$	1) Given
2) $\angle DAF \cong \angle CBE$	2) Given
3) $\angle DFB \cong \angle CEA$	3) Given
4) $\angle DFB$ & $\angle 1$ are supp. $\angle CEA$ & $\angle 2$ are supp.	4) linear pair's are suppl.
5) $\angle 1 \cong \angle 2$	5) Suppl. of \cong \angle 's are \cong .
6) $\triangle ADF \cong \triangle BCE$	6) aas \cong aas

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26) Given: $\overline{AF} \cong \overline{BF}$
 $\overline{FC} \cong \overline{FE}$
 Prove: $\triangle BFC \cong \triangle AFE$



Statement	Reason
1) $\overline{AF} \cong \overline{BF}$	1) Given
2) $\overline{FC} \cong \overline{FE}$	2) Given
3) $\angle 1 \cong \angle 2$	3) Vertical angles are \cong
4) $\triangle BFC \cong \triangle AFE$	4) SAS \cong SAS

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