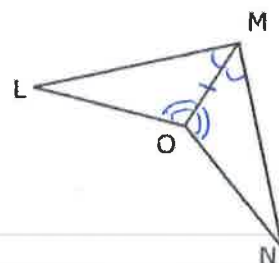


Reason Bank

Angle Angle Side (AAS)	Definition of Angle Bisector
Angle Side Angle (ASA)	Definition of Midpoint
Alternate Interior Angles Theorem	Definition of Perpendicular Lines
Alternate Exterior Angles Theorem	Given
Base Angles Theorem	Hypotenuse Leg Theorem (HL)
Base Angles Converse Theorem	Reflexive Property
Consecutive Interior Angles Theorem	Side Angle Side (SAS)
Corresponding Angles Postulate	Side Side Side (SSS)
Corresponding Parts of Congruent Triangles are congruent (CPCTC)	Vertical Angles Theorem

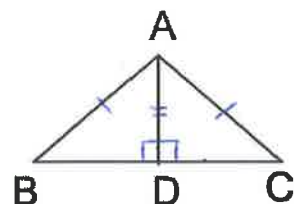
Please make sure to mark the diagrams when appropriate!

1. Given: \overline{OM} bisects $\angle LMN$ and $\angle LOM \cong \angle NOM$
Prove: $\triangle LMO \cong \triangle NMO$



Statements	Reasons
1. \overline{OM} bisects $\angle LMN$ $\angle LOM \cong \angle NOM$	1. Given
2. $\angle LMO \cong \angle NMO$	2. Def of angle bisector
3. $\overline{OM} \cong \overline{OM}$	3. Reflexive Prop
4. $\triangle LMO \cong \triangle NMO$	4. ASA

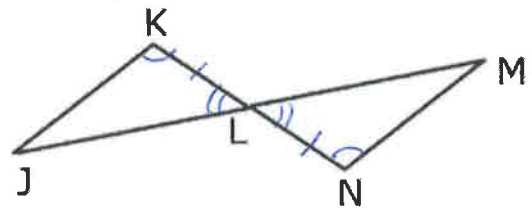
2. Given: $\overline{AD} \perp \overline{BC}$ and $\overline{BA} \cong \overline{CA}$
Prove: $\triangle BAD \cong \triangle CAD$



Statements	Reasons
1. $\overline{AD} \perp \overline{BC}$ and $\overline{BA} \cong \overline{CA}$	1. Given
2. $\angle ADB$ and $\angle ADC$ are right \angle 's	2. Definition of Perpendicular Lines
3. $\triangle ADB$ and $\triangle ADC$ are right \triangle 's	3. Def. of right triangles
4. $\overline{AD} \cong \overline{AD}$	4. Reflexive Property
5. $\triangle BAD \cong \triangle CAD$	5. HL

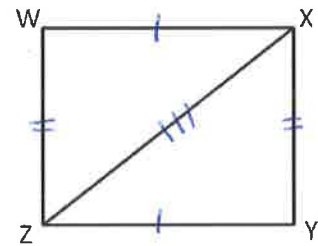
3. Given: $\overline{JK} \parallel \overline{MN}$ and L is the midpoint of \overline{KN}

Prove: $\triangle JLK \cong \triangle MLN$



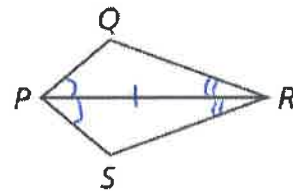
Statements	Reasons
1. $\overline{JK} \parallel \overline{MN}$	1. Given
2. L is the midpoint of \overline{KN}	2. Given
3. $\overline{KL} \cong \overline{NL}$	3. Definition of Midpoint
4. $\angle JKL \cong \angle MNL$	4. Alt. Int. Angles Thm
5. $\angle KJL \cong \angle MNL$	5. Vertical Angles Theorem
6. $\triangle JLK \cong \triangle MLN$	6. ASA

4. Given: $\overline{WX} \cong \overline{YZ}$ and $\overline{WZ} \cong \overline{YX}$
 Prove: $\triangle ZWX \cong \triangle XYZ$



Statements	Reasons
1. $\overline{WX} \cong \overline{YZ}$	1. Given
2. $\overline{WZ} \cong \overline{YX}$	2. Given
3. $\overline{XZ} \cong \overline{XZ}$	3. Reflexive Prop
4. $\triangle ZWX \cong \triangle XYZ$	4. SSS

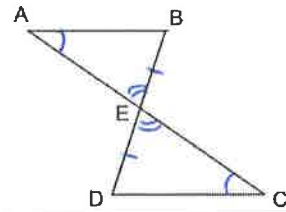
5. Given: \overline{PR} bisects $\angle QPS$ and $\angle QRS$
 Prove: $\triangle PQR \cong \triangle PSR$



Statements	Reasons
1. \overline{PR} bisects $\angle QPS$ and $\angle QRS$	1. Given
2. $\angle QPR \cong \angle SPR$	2. Def of angle bisector
3. $\angle QRP \cong \angle SRP$	3. Definition of Angle Bisector
4. $\overline{PR} \cong \overline{PR}$	4. Reflexive Prop
5. $\triangle PQR \cong \triangle PSR$	5. ASA

6. Given: E is the midpoint of \overline{BD} , $\angle BAE \cong \angle DCE$

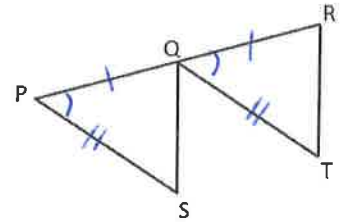
Prove: $\triangle ABE \cong \triangle CDE$



Statements	Reasons
1. E is the midpoint of \overline{BD}	1. Given
2. $\overline{BE} \cong \overline{DE}$	2. Def of Midpoint
3. $\angle BAE \cong \angle DCE$	3. Given
4. $\angle AEB \cong \angle CED$	4. Vertical Angles Theorem
5. $\triangle ABE \cong \triangle CDE$	5. AAS

7. Given: Q is the midpoint of \overline{PR} , $\overline{PS} \cong \overline{QT}$ and $\angle QPS \cong \angle RQT$

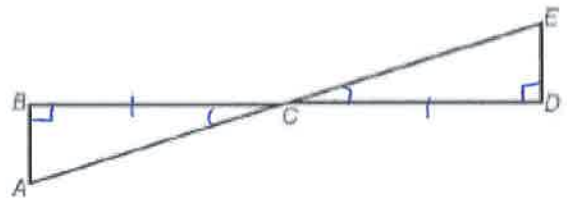
Prove: $\triangle PSQ \cong \triangle QTR$



Statements	Reasons
1. Q is the midpoint of \overline{PR}	1. Given
2. $\overline{PQ} \cong \overline{RQ}$	2. Def of midpoint
3. $\overline{PS} \cong \overline{QT}$	3. Given
4. $\angle QPS \cong \angle RQT$	4. Given
5. $\triangle PSQ \cong \triangle QTR$	5. SAS

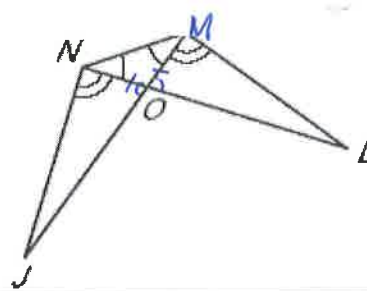
8. Given: C is the midpoint of \overline{BD}
 $\overline{AB} \perp \overline{BD}$ and $\overline{BD} \perp \overline{DE}$

Prove: $\triangle ABC \cong \triangle EDC$



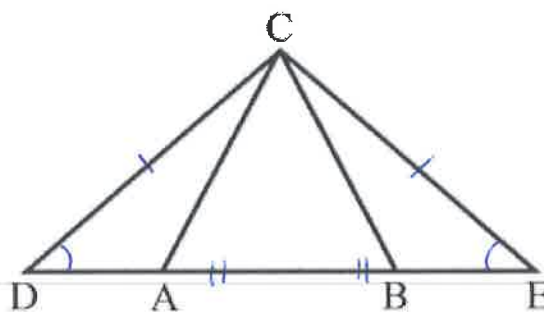
Statements	Reasons
1. C is the midpoint of \overline{BD}	1. Given
2. $\overline{BC} \cong \overline{DC}$	2. Def of midpoint
3. $\overline{AB} \perp \overline{BD}$ and $\overline{BD} \perp \overline{DE}$	3. Given
4. $\angle B$ and $\angle D$ are right angles	4. Def of right angles \perp lines
5. $\angle B \cong \angle D$	5. All right angles are congruent
6. $\triangle ABC$ and $\triangle EDC$ are right \triangle 's	6. Def of right \triangle 's
7. $\angle BCA \cong \angle DCE$	7. VAT
8. $\triangle ABC \cong \triangle EDC$	8. ASA

9. Given: $\angle OMN \cong \angle ONM$, $\angle JNO \cong \angle LMO$
 Prove: $\triangle NOJ \cong \triangle MOL$



Statements	Reasons
1. $\angle OMN \cong \angle ONM$	1. Given
2. $\overline{NO} \cong \overline{MO}$	2. Base Angles Converse Theorem
3. $\angle NOJ \cong \angle MOL$	3. Vertical Angles Theorem
4. $\angle JNO \cong \angle LMO$	4. Given
5. $\triangle NOJ \cong \triangle MOL$	5. ASA

10. Given: $\overline{CD} \cong \overline{CE}$, $\overline{DB} \cong \overline{EA}$
 Prove: $\triangle CDB \cong \triangle CEA$



Statements	Reasons
1. $\overline{CD} \cong \overline{CE}$	1. Given
2. $\overline{DB} \cong \overline{EA}$	2. Given
3. $\angle D \cong \angle E$	3. Base Angles Thm
4. $\triangle CDB \cong \triangle CEA$	4. SAS