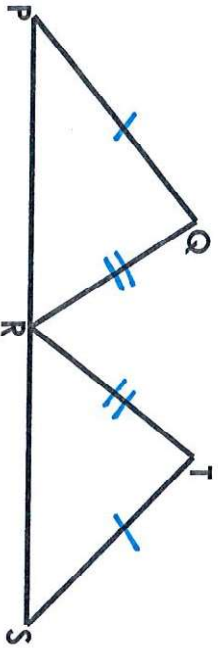


SSS PROOF #1

Given: $\overline{PQ} \cong \overline{ST}$, $\overline{QR} \cong \overline{TR}$, R is the midpoint of \overline{PS}

Prove: $\triangle PQR \cong \triangle STR$



Statements	Reasons
$\overline{PQ} \cong \overline{ST}$	Given
$\overline{QR} \cong \overline{TR}$	Given
R is the midpoint of \overline{PS}	Given
$\overline{PR} \cong \overline{SR}$	Def. of Midpoint
$\triangle PQR \cong \triangle STR$	SSS

~~$\overline{PQ} \cong \overline{ST}$~~ Def. of Midpoint ~~$\overline{QR} \cong \overline{TR}$~~

~~R is the midpoint of \overline{PS}~~ Given

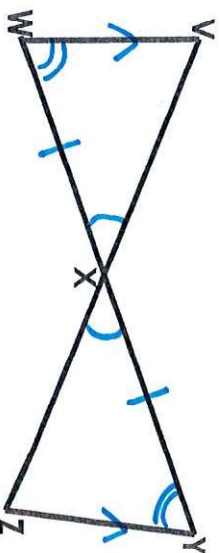
~~$\overline{PR} \cong \overline{SR}$~~ Given ~~SSS~~

~~Given~~ ~~$\triangle PQR \cong \triangle STR$~~

CPCTC PROOF #1

Given: $\overline{WV} \parallel \overline{YZ}$, X is the midpoint of \overline{WY}

Prove: $\angle W VX = \angle Y ZX$



Statements	Reasons
$\overline{WV} \parallel \overline{YZ}$	Given
X is the midpoint of \overline{WY}	Given
$\overline{WX} \cong \overline{YX}$	Def. of Midpoint
$\angle VXW \cong \angle ZXY$	Vertical Angles
$\angle VWX \cong \angle ZYX$	Alt. Interior Angles
$\triangle VXW \cong \triangle ZXY$	ASA
$\angle W VX \cong \angle Y ZX$	CPCTC

~~ASA~~ ~~$\triangle VXW \cong \triangle ZXY$~~ ~~$\overline{WX} \cong \overline{YX}$~~

~~$\overline{WV} \parallel \overline{YZ}$~~ CPCTC ~~Given~~

~~Def. of Midpoint~~ Alt. Interior Angles ~~$\angle VXW \cong \angle ZXY$~~

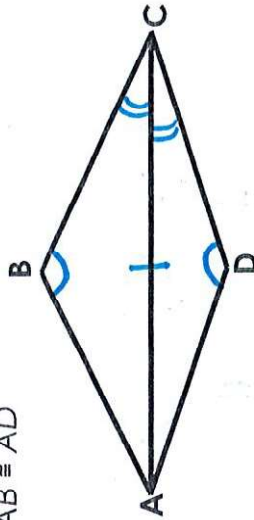
~~$\angle W VX = \angle Y ZX$~~ X is the midpoint of \overline{WY}

~~$\angle W VX = \angle ZYX$~~ Given ~~Vertical Angles~~

CPCTC PROOF #3

Given: \overline{AC} bisects $\angle BCD$, $\angle ABC \cong \angle ADC$

prove: $\overline{AB} \cong \overline{AD}$



Statements	Reasons
\overline{AC} bisects $\angle BCD$	Given
$\angle ABC \cong \angle ADC$	Given
$\angle BCA \cong \angle DCA$	Def. of Angle Bisector
$\overline{AC} \cong \overline{AC}$	Reflexive Property
$\triangle ABC \cong \triangle ADC$	AAS
$\overline{AB} \cong \overline{AD}$	CPCTC

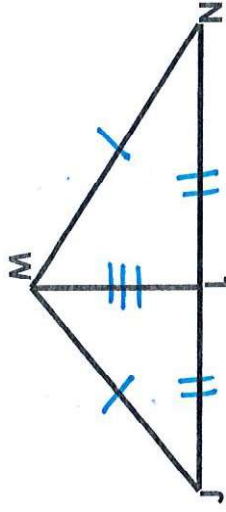
$\overline{AC} \cong \overline{AC}$	Given	$\triangle ABC \cong \triangle ADC$
$\angle BCA \cong \angle DCA$	\overline{AC} bisects $\angle BCD$	$\angle ABC \cong \angle ADC$
$\overline{AB} \cong \overline{AD}$	Def. of Angle Bisector	Given
	$\angle BCA \cong \angle DCA$	AAS
	Reflexive Property	CPCTC

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SSS PROOF #2

Given: L is the midpoint of \overline{JN} , $\overline{JM} \cong \overline{NM}$,

prove: $\triangle JLM \cong \triangle NLM$



Statements	Reasons
L is the midpoint of \overline{JN}	Given
$\overline{JM} \cong \overline{NM}$	Given
$\overline{JL} \cong \overline{NL}$	Def. of Midpoint
$\overline{LM} \cong \overline{LM}$	Reflexive Property
$\triangle JLM \cong \triangle NLM$	SSS

$\overline{JL} \cong \overline{NL}$	L is the midpoint of \overline{JN}	$\overline{JM} \cong \overline{NM}$
$\overline{LM} \cong \overline{LM}$	Def. of Midpoint	$\triangle JLM \cong \triangle NLM$
	Given	SSS
	Reflexive Property	

2

SAS PROOF #1

Given: X is the midpoint of \overline{VZ} , X is the midpoint of \overline{WY}

Prove: $\triangle VWX \cong \triangle ZYX$



Statements	Reasons
X is the midpoint of \overline{VZ}	Given
X is the midpoint of \overline{WY}	Given
$\overline{VX} \cong \overline{XZ}$	Def. of Midpoint
$\overline{WX} \cong \overline{XY}$	Def. of Midpoint
$\angle WXV \cong \angle YXZ$	Vertical Angles
$\triangle VWX \cong \triangle ZYX$	SAS

Def. of Midpoint

Def. of Midpoint

$\overline{WX} \cong \overline{XY}$

$\angle WXV \cong \angle YXZ$

Vertical Angles

X is the midpoint of \overline{VZ}

Given

$\overline{VX} \cong \overline{XZ}$

X is the midpoint of \overline{WY}

SAS

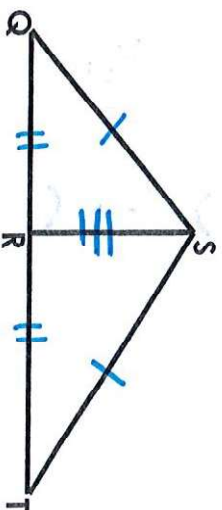
Given

$\triangle VWX \cong \triangle ZYX$

CPCTC PROOF #2

Given: $\overline{QS} \cong \overline{TS}$, R is the midpoint of \overline{QT}

Prove: $\angle RQS \cong \angle RTS$



Statements	Reasons
$\overline{QS} \cong \overline{TS}$	Given
R is the midpoint of \overline{QT}	Given
$\overline{QR} \cong \overline{RT}$	Def. of Midpoint
$\overline{RS} \cong \overline{RS}$	Reflexive Property
$\triangle QRS \cong \triangle TRS$	SSS
$\angle RQS \cong \angle RTS$	CPCTC

$\overline{RS} \cong \overline{RS}$

Reflexive Property

$\overline{QS} \cong \overline{TS}$

Given

$\angle RQS \cong \angle RTS$

Def. of Midpoint

Given

$\overline{QR} \cong \overline{RT}$

CPCTC

SSS

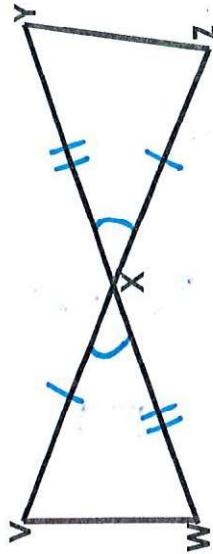
R is the midpoint of \overline{QT}

$\triangle QRS \cong \triangle TRS$

CPCTC PROOF #1

Given: X is the midpoint of \overline{VZ} , X is the midpoint of \overline{WY}

prove: $\angle XVW \cong \angle XZY$



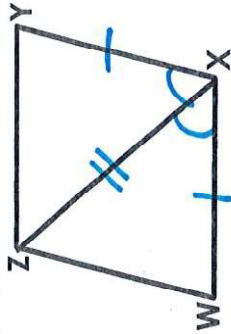
Statements	Reasons
X is the midpoint of \overline{VZ}	Given
X is the midpoint of \overline{WY}	Given
$\overline{VX} \cong \overline{XZ}$	Def. of Midpoint
$\overline{WX} \cong \overline{XY}$	Def. of Midpoint
$\angle XVW \cong \angle XZY$	Vertical Angles
$\triangle XVW \cong \triangle XZY$	SAS
$\angle XVW \cong \angle XZY$	CPCTC

Given Def. of Midpoint $\angle XVW \cong \angle XZY$
 $\overline{VX} \cong \overline{XZ}$ Def. of Midpoint $\angle WXV \cong \angle XYZ$
 X is the midpoint of \overline{VZ} Given $\triangle XVW \cong \triangle XZY$
 $\overline{WX} \cong \overline{XY}$ $\triangle VWX \cong \triangle ZYX$ Vertical Angles
 X is the midpoint of \overline{WY} CPCTC SAS

SAS PROOF #2

Given: $\overline{XW} \cong \overline{XY}$, \overline{XZ} bisects $\angle WXY$

prove: $\triangle WXZ \cong \triangle YXZ$



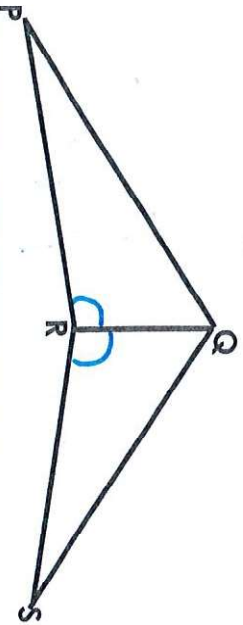
Statements	Reasons
$\overline{XW} \cong \overline{XY}$	Given
\overline{XZ} bisects $\angle WXY$	Given
$\angle WXZ \cong \angle YXZ$	Def. of Angle Bisector
$\overline{XZ} \cong \overline{XZ}$	Reflexive Property
$\triangle WXZ \cong \triangle YXZ$	SAS

$\angle WXZ \cong \angle YXZ$ \overline{XZ} bisects $\angle WXY$ $\overline{XW} \cong \overline{XY}$
 $\triangle WXZ \cong \triangle YXZ$ Given SAS
 Def. of Angle Bisector Given SAS
 $\overline{XZ} \cong \overline{XZ}$ Reflexive Property

ASA PROOF #1

Given: \overline{QR} bisects $\angle PQS$, $\angle PRQ = \angle SRQ$

Prove: $\triangle PQR \cong \triangle SQR$



Statements	Reasons
\overline{QR} bisects $\angle PQS$	Given
$\angle PRQ \cong \angle SRQ$	Given
$\angle PQR \cong \angle SQR$	Def. of Angle Bisector
$\overline{QR} \cong \overline{QR}$	Reflexive Property
$\triangle PQR \cong \triangle SQR$	ASA

~~$\overline{QR} = \overline{QR}$~~

~~Given~~

~~$\angle PQR = \angle SQR$~~

~~Def. of Angle Bisector~~

~~Given~~

~~\overline{QR} bisects $\angle PQS$~~

~~Reflexive Property~~

~~$\angle PRQ = \angle SRQ$~~

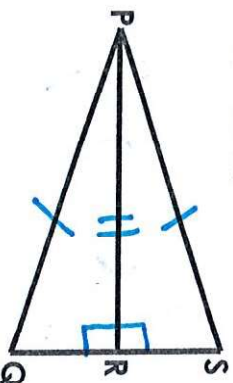
~~ASA~~

~~$\triangle PQR \cong \triangle SQR$~~

HL PROOF #2

Given: $\overline{PR} \perp \overline{SQ}$, $\overline{PQ} = \overline{PS}$

Prove: $\triangle PRQ \cong \triangle PRS$



Statements	Reasons
$\overline{PR} \perp \overline{SQ}$	Given
$\overline{PQ} \cong \overline{PS}$	Given
$\angle PRQ$ and $\angle PRS$ are right \angle 's	Def of \perp
$\overline{PR} \cong \overline{PR}$	Reflexive Property
$\angle PRQ \cong \angle PRS$	All right \angle 's are \cong
$\triangle PRQ \cong \triangle PRS$	HL

~~$\angle PRQ = \angle PRS$~~

~~Given~~

~~$\overline{PQ} = \overline{PS}$~~

~~Reflexive Property~~

~~$\overline{PR} \perp \overline{SQ}$~~

~~Def. of \perp~~

~~HL~~

~~$\overline{PR} = \overline{PR}$~~

~~$\angle PRQ$ and $\angle PRS$ are right \angle 's~~

~~Given~~

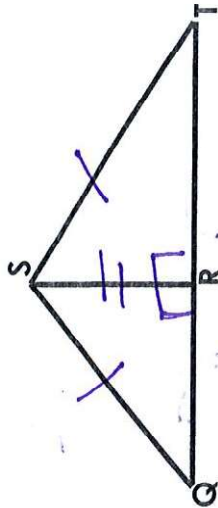
~~All right \angle 's are \cong~~

~~$\triangle PRQ \cong \triangle PRS$~~

HL PROOF #1

Given: $\triangle QSR$ and $\triangle TSR$ are right triangles, $\overline{QS} \cong \overline{TS}$

prove: $\triangle QSR \cong \triangle TSR$



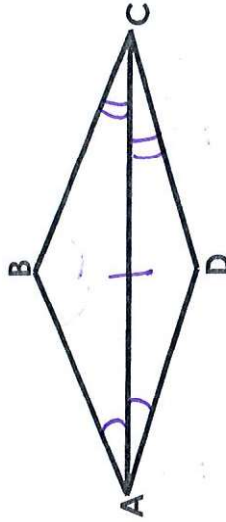
Statements	Reasons
$\triangle QSR$ and $\triangle TSR$ are right triangles	Given
$\overline{QS} \cong \overline{TS}$	Given
$\overline{SR} \cong \overline{SR}$	Reflexive Property
$\triangle QSR \cong \triangle TSR$	HL

$\overline{QS} \cong \overline{TS}$	HL	Given
$\triangle QSR$ and $\triangle TSR$ are right triangles	Given	
Reflexive Property	$\triangle QSR \cong \triangle TSR$	$\overline{SR} \cong \overline{SR}$

ASA PROOF #2

Given: \overline{AC} bisects $\angle BAD$, \overline{AC} bisects $\angle BCD$

prove: $\triangle BAC \cong \triangle DAC$



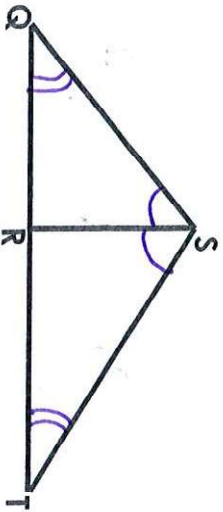
Statements	Reasons
\overline{AC} bisects $\angle BAD$	Given
\overline{AC} bisects $\angle BCD$	Given
$\angle BAC \cong \angle DAC$	Def of Angle Bisector
$\angle BCA \cong \angle DCA$	Def of Angle Bisector
$\overline{AC} \cong \overline{AC}$	Reflexive Property
$\triangle BAC \cong \triangle DAC$	ASA

Def. of Angle Bisector	Reflexive Property
$\overline{AC} \cong \overline{AC}$	$\angle BAC \cong \angle DAC$
\overline{AC} bisects $\angle BCD$	Given
\overline{AC} bisects $\angle BAD$	Given
$\angle BCA \cong \angle DCA$	ASA
Def. of Angle Bisector	$\triangle BAC \cong \triangle DAC$

AAS PROOF #1

Given: \overline{SR} bisects $\angle QST$, $\angle SQR = \angle STR$

Prove: $\triangle QSR \cong \triangle TSR$



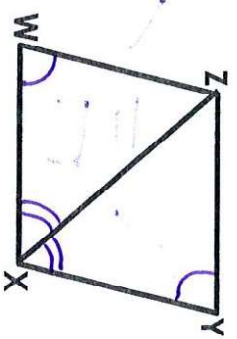
Statements	Reasons
\overline{SR} bisects $\angle QST$	Given
$\angle SQR \cong \angle STR$	Given
$\angle QSR \cong \angle TSP$	Def. of Angle Bisector
$\overline{SR} \cong \overline{SR}$	Reflexive Property
$\triangle QSR \cong \triangle TSR$	AAS

$\angle QSR = \angle TSP$	Reflexive Property	Given
$\triangle QSR = \triangle TSR$	Given	
$\angle SQR = \angle STR$	\overline{SR} bisects $\angle QST$	AAS
Def. of Angle Bisector	$\overline{SR} = \overline{SR}$	

AAS PROOF #2

Given: $\angle XWZ = \angle XYZ$, \overline{XZ} bisects $\angle WXY$

Prove: $\triangle XWZ \cong \triangle XYZ$



Statements	Reasons
$\angle XWZ \cong \angle XYZ$	Given
\overline{XZ} bisects $\angle WXY$	Given
$\angle WXZ \cong \angle YXZ$	Def. of Angle Bisector
$\overline{XZ} \cong \overline{XZ}$	Reflexive Property
$\triangle XWZ \cong \triangle XYZ$	AAS

$\overline{XZ} = \overline{XZ}$	Reflexive Property	$\angle XWZ = \angle XYZ$
$\angle WXZ = \angle YXZ$	Given	
Given	\overline{XZ} bisects $\angle WXY$	AAS
Def. of Angle Bisector	$\triangle XWZ = \triangle XYZ$	