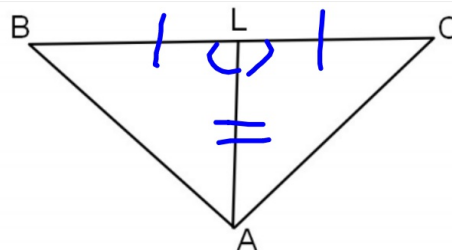


1. Write a proof.

Given: L is the midpoint of \overline{BC}
 $\angle ALB \cong \angle ALC$

Prove: $\angle C \cong \angle B$

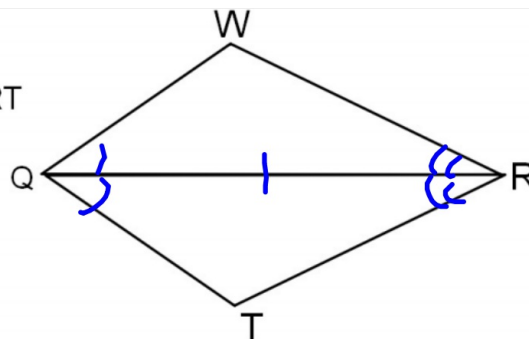


Statement	Reason
1. L is the midpoint of \overline{BC} $\angle ALB \cong \angle ALC$	1. Given
$AL \cong AL$	Defl.
$BL \cong CL$	def. of midpt.
$\triangle ALB \cong \triangle ALC$	SAS
$\angle C \cong \angle B$	CPCTC

2. Write a proof.

Given: \overline{QR} bisects both $\angle WQT$ and $\angle WRT$

Prove: $\overline{QW} \cong \overline{QT}$



Statement	Reason
1. \overline{QR} bisects both $\angle WQT$ and $\angle WRT$	1. Given
$\angle WQR \cong \angle TQR$	def of bisect
$QR \cong QR$	Refl.
$\angle WRQ \cong \angle TRQ$	def of bisect.
$\triangle WQR \cong \triangle TQR$	ASA
$\overline{QW} \cong \overline{QT}$	CPCTC

2.	1	$\angle ABD \simeq \angle CBD, \angle BDA \simeq \angle BDC$	Given
	2	$\overline{BD} \simeq \overline{BD}$	Reflexive Property of Congruence
	3	$\triangle ABD \simeq \triangle CBD$	ASA Postulate
	4	$\overline{AB} \simeq \overline{CB}$	CPCTC

3.	1	$\overline{OM} \simeq \overline{ER}, \overline{ME} \simeq \overline{RO}$	Given
	2	$\overline{OE} \simeq \overline{OE}$	Reflexive Property of Congruence
	3	$\triangle MOE \simeq \triangle ROE$	SSS Postulate
	4	$\angle M \simeq \angle R$	CPCTC

4.

a. SSS Postulate

b. CPCTC

5. The triangles are congruent by SAS so the distance across the sinkhole is 26.5 yards by CPCTC.

6.	$\angle SPT \simeq \angle OPT, \overline{SP} \simeq \overline{OP}$	Given
	$\overline{TP} \simeq \overline{TP}$	Reflexive Property of Congruence
	$\triangle SPT \simeq \triangle OPT$	SAS Postulate
	$\angle S \simeq \angle O$	CPCTC

8. $\overline{KL} \simeq \overline{KL}$

Reflexive Property of Congruence

$\angle PKL \simeq \angle QKL$

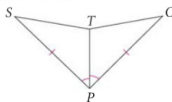
Definition of angle bisector

$\triangle PKL \simeq \triangle QKL$

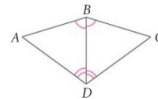
SAS Postulate

12. $\triangle ABD \simeq \triangle CBD$ by SSS postulate so $\angle A \simeq \angle C$ by CPCTC.

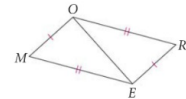
Proof 6. Given: $\angle SPT \simeq \angle OPT$,
 $\overline{SP} \simeq \overline{OP}$
Prove: $\angle S \simeq \angle O$



Proof 2. Given: $\angle ABD \simeq \angle CBD$,
 $\angle BDA \simeq \angle BDC$
Prove: $\overline{AB} \simeq \overline{CB}$

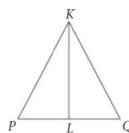


3. Given: $\overline{OM} \simeq \overline{ER}$,
 $\overline{ME} \simeq \overline{RO}$
Prove: $\angle M \simeq \angle R$

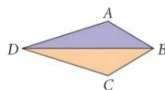


Copy and mark the figure to show the given information.
Explain how you would use SSS, SAS, ASA, or AAS
with CPCTC to prove $\angle P \simeq \angle Q$.

8. Given: $\overline{PK} \simeq \overline{QK}$, \overline{KL} bisects $\angle PKQ$.



12. **Writing** Karen cut this pattern for the stained glass shown here so that $AB = CB$ and $AD = CD$. Must $\angle A$ be congruent to $\angle C$? Explain.



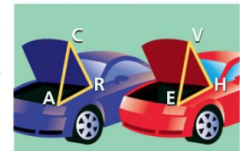
4. Developing Proof Two cars of the same model have hood braces that are identical, connect to the body of the car in the same place, and fit into the same slot in the hood.

Given: $\overline{CA} \simeq \overline{VE}$, $\overline{AR} \simeq \overline{EH}$, $\overline{RC} \simeq \overline{HV}$

Complete the proof that the hood braces hold the hoods open at the same angle.

Prove: $\angle ARC \simeq \angle EHV$

Proof: It is given that the three sides of the triangles are congruent, so $\triangle ARC \simeq \triangle EHV$ by a. SSS. Thus, $\angle ARC \simeq \angle EHV$ by b. CPCTC.



5. Earth Science Some distances are best measured indirectly.



Sinkhole Swallows House

The large sinkhole in this photo occurred suddenly in 1981 in Winter Park, Florida, following a severe drought. Increased water consumption lowers the water table. Sinkholes form when caverns in the underlying limestone dry up and collapse.

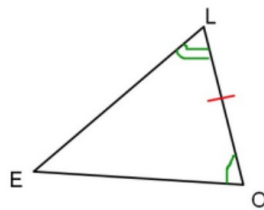
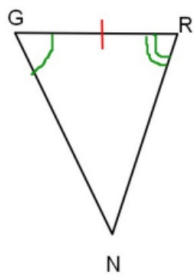
A geometry class indirectly measured the distance across a sinkhole. The distances they measured are shown in the diagram. Explain how to use their measurements to find the distance across the sinkhole.



Section 4-4:

CPCTC

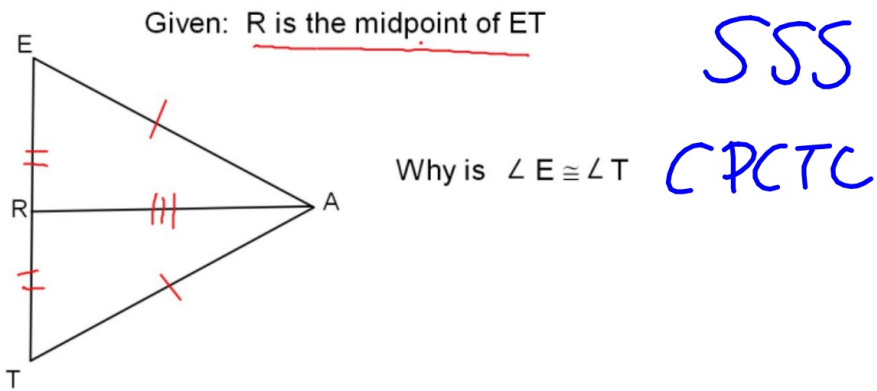
Corresponding Parts of Congruent Triangles are Congruent.



Why is $\overline{RN} \cong \overline{LE}$?

CPCTC

ASA



To prove two segments or two angles are congruent:

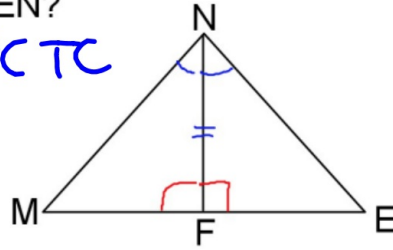
- First prove two triangles are congruent
- Second use CPCTC to show that corresponding sides or angles are congruent.

Given: \overline{NF} is \perp to \overline{ME} and \overline{FN} bisects $\angle MNE$

How could you prove that $\overline{MN} \cong \overline{EN}$?

ASA

CPCCTC

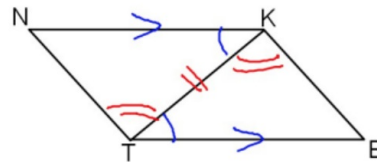


Given: $\overline{NK} \parallel \overline{ET}$ and $\angle NTK \cong \angle EKT$

Prove: $\overline{NT} \cong \overline{EK}$

CPCCTC

ASA



Statement

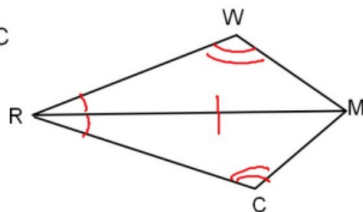
|

Reason

Given: \overline{MR} bisects $\angle WRC$ and $\angle W \cong \angle C$

Prove: $\overline{WM} \cong \overline{CM}$

CPCTC AAS



Statement

Reason

Classwork: Practice 4.4 Worksheet

IXL #13 - K.3 & K.4 due Friday at 4pm!