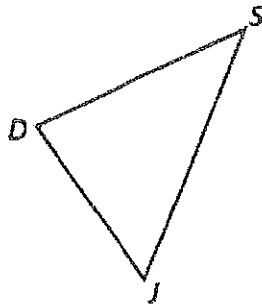
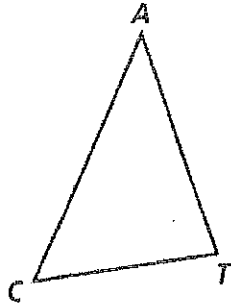


1.  $\triangle CAT \cong \triangle JSD$ .



Name three pairs of congruent angles.

$\angle C \cong \angle J$      $\angle T \cong \angle D$

$\angle A \cong \angle S$

Name three pairs of congruent sides.

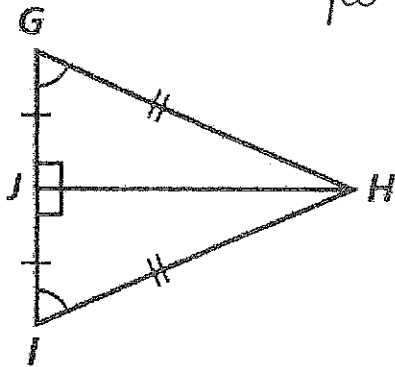
$\overline{CA} \cong \overline{JS}$      $\overline{CT} \cong \overline{JD}$

$\overline{AT} \cong \overline{SD}$

State whether the pairs of figures are congruent. Explain.

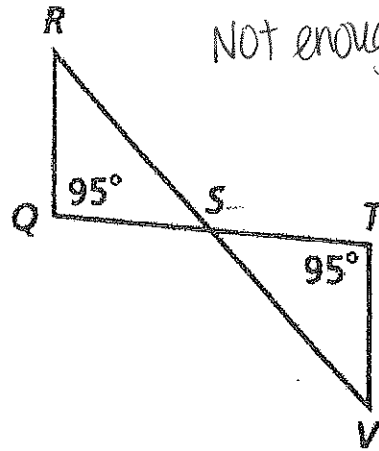
2.  $\triangle GHJ$  and  $\triangle IHJ$

yes by SAS or ASA



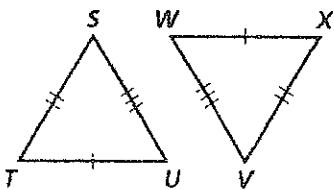
3.  $\triangle QRS$  and  $\triangle TVS$

Not enough info.



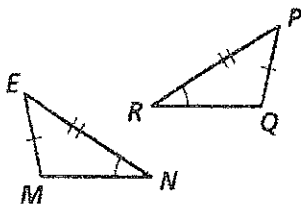
Tell whether the triangles are congruent. If so, write a congruence statement and the postulate you used to prove the triangles congruent. If not, write not possible.

4.



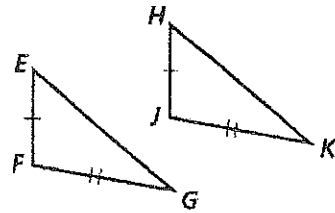
$\triangle STU \cong \triangle VWX$  by SSS

5.



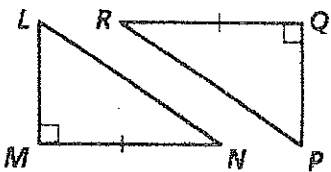
Not enough info.

6.



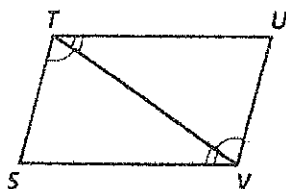
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7.



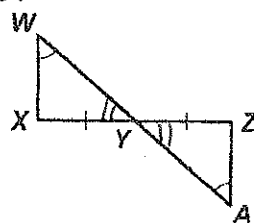
Not enough info

8.



$\triangle STV \cong \triangle UVT$  by ASA

9.



$\triangle WYX \cong \triangle ZAY$  by AAS

10. Write a two-column proof.

**Given:**  $\angle K \cong \angle M$ ,  $\overline{KL} \cong \overline{ML}$

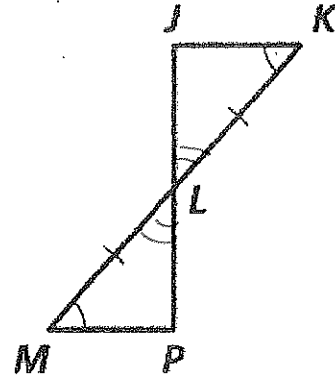
**Prove:**  $\triangle JKL \cong \triangle PML$

Statements

- ①  $\angle K \cong \angle M$ ,  $\overline{KL} \cong \overline{ML}$
- ②  $\angle MLP \cong \angle K LJ$
- ③  $\triangle JKL \cong \triangle PML$

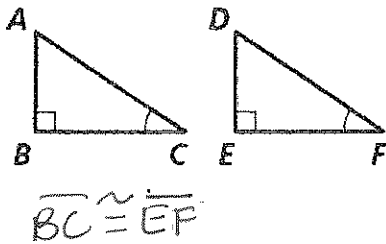
Reasons

- ① Given
- ② VAT
- ③ ASA

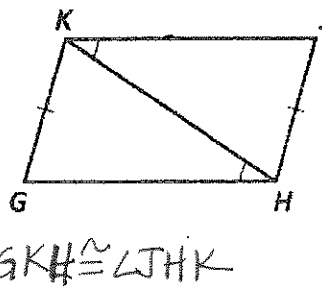


What else must you know to prove the triangles congruent for the reasons shown?

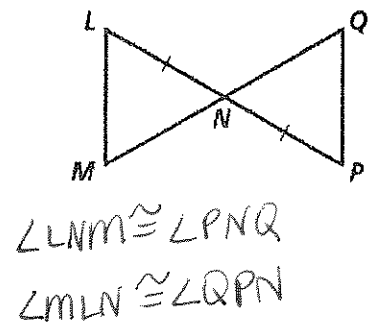
11. ASA



12. AAS



13. ASA



14. Write a proof.

**Given:**  $\overline{EF} \cong \overline{FG}$ ,  $\overline{DF} \cong \overline{FH}$

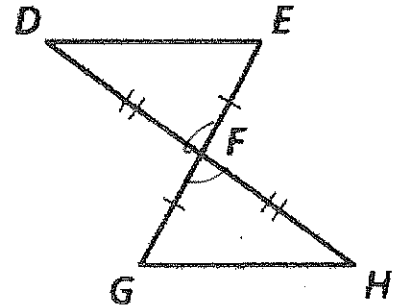
**Prove:**  $\triangle DFE \cong \triangle HFG$

Statements

- ①  $\overline{EF} \cong \overline{FG}$ ,  $\overline{DF} \cong \overline{FH}$
- ②  $\angle GFH \cong \angle EFD$
- ③  $\triangle DFE \cong \triangle HFG$

Reasons

- ① Given
- ② VAT
- ③ SAS



15. Write a proof.

**Given:**  $\angle Q \cong \angle S$ ,  $\angle TRS \cong \angle RTQ$

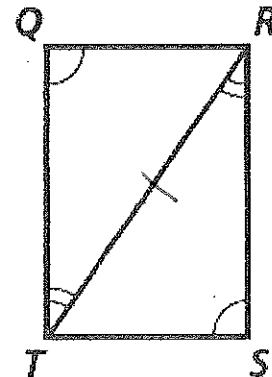
**Prove:**  $\triangle QRT \cong \triangle STR$

Statements

- ①  $\angle Q \cong \angle S$ ,  $\angle TRS \cong \angle RTQ$
- ②  $\overline{RT} \cong \overline{RT}$
- ③  $\triangle QRT \cong \triangle STR$

Reasons

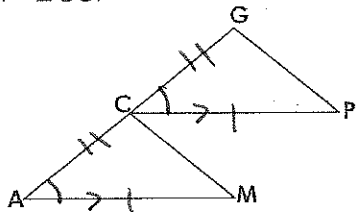
- ① Given
- ② Reflexive
- ③ AAS



## PROOF #1

**Given:**  $\overline{AM} \cong \overline{CP}$ , C is the midpoint of  $\overline{AG}$ ,  $\overline{AM} \parallel \overline{CP}$

**Prove:**  $\triangle ACM \cong \triangle CGP$

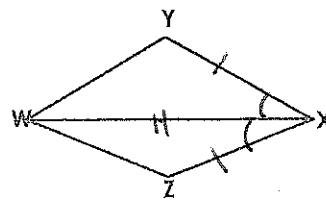


Statements	Reasons
① $\overline{AM} \cong \overline{CP}$ , C is the midpt. of $\overline{AG}$ $\overline{AM} \parallel \overline{CP}$	① Given
② $\overline{AC} \cong \overline{CG}$	② Def. of midpt
③ $\angle CAM \cong \angle GCP$	③ Corresponding $\angle$ s
④ $\triangle ACM \cong \triangle CGP$	④ SAS

## PROOF #2

**Given:**  $\overline{YX} \cong \overline{ZX}$ ,  $\overline{WX}$  bisects  $\angle YXZ$

**Prove:**  $\triangle WYX \cong \triangle WZX$

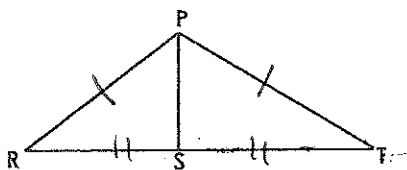


Statements	Reasons
① $\overline{YX} \cong \overline{ZX}$ , $\overline{WX}$ bisects $\angle YXZ$	① Given
② $\overline{WX} \cong \overline{WX}$	② Reflexive
③ $\angle YXW \cong \angle ZXW$	③ Def. of bisector
④ $\triangle WYX \cong \triangle WZX$	④ SAS

## PROOF #3

**Given:** S is the midpoint of  $\overline{RT}$ ,  $\overline{PR} \cong \overline{PT}$

**Prove:**  $\triangle PRS \cong \triangle PTS$

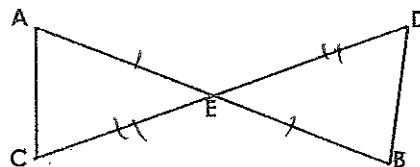


Statements	Reasons
① S is midpt. of $\overline{RT}$ , $\overline{PR} \cong \overline{PT}$	① Given
② $\overline{RS} \cong \overline{TS}$	② Def. of midpt
③ $\overline{PS} \cong \overline{PS}$	③ Reflexive
④ $\triangle PRS \cong \triangle PTS$	④ SSS

## PROOF #4

**Given:** E is the midpoint of  $\overline{AB}$ , E is the midpoint of  $\overline{CD}$

**Prove:**  $\triangle AEC \cong \triangle BED$

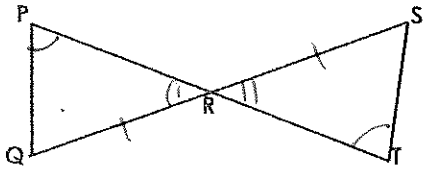


Statements	Reasons
① E is midpt. of $\overline{AB}$ , E midpt. of $\overline{CD}$	① Given
② $\overline{AE} \cong \overline{BE}$ $\overline{CE} \cong \overline{DE}$	② Def. of midpt
③ $\angle AEC \cong \angle BED$	③ V.A.T
④ $\triangle AEC \cong \triangle BED$	④ SAS

# PROOF #5

**Given:** R is the midpoint of  $\overline{QS}$ ,  $\angle RPQ = \angle RTS$

**Prove:**  $\triangle PQR \cong \triangle TSR$

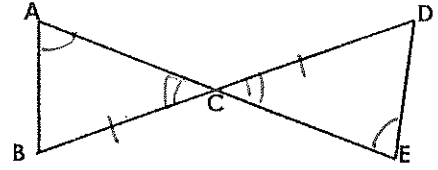


Statements	Reasons
① R is midpt. of $\overline{QS}$ , $\angle RPQ \cong \angle RTS$	① Given
② $\angle PRQ \cong \angle TRS$	② VAT
③ $\overline{QR} \cong \overline{SR}$	③ Def. of midpt
④ $\triangle PQR \cong \triangle TSR$	④ AAS

# PROOF #6

**Given:**  $\angle A \cong \angle E$ ,  $\overline{BC} \cong \overline{DC}$

**Prove:**  $\triangle ABC \cong \triangle DEC$



Statements	Reasons
① $\angle A \cong \angle E$ , $\overline{BC} \cong \overline{DC}$	① Given
② $\angle ACB \cong \angle DCE$	② VAT
③ $\triangle ABC \cong \triangle DEC$	③ AAS