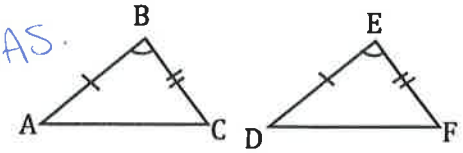
19. Given: $\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$, and $\angle B \cong \angle E$

SAS

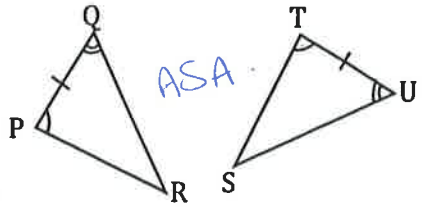


Prove: $\triangle ABC \cong \triangle DEF$

Statements	Reasons
(S) $\overline{AB} \cong \overline{DE}$	Given
(A) $\angle B \cong \angle E$	Given
(S) $\overline{BC} \cong \overline{EF}$	Given
$\triangle ABC \cong \triangle DEF$	SAS

20. Given: $\overline{PQ} \cong \overline{TU}$, $\angle P \cong \angle T$, and $\angle Q \cong \angle U$

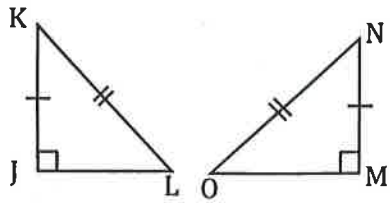
ASA



Prove: $\triangle PQR \cong \triangle TUS$

Statements	Reasons
(A) $\angle P \cong \angle T$	Given
(S) $\overline{PQ} \cong \overline{TU}$	Given
(A) $\angle Q \cong \angle U$	Given
$\triangle PQR \cong \triangle TUS$	ASA

21. Given: $\overline{JK} \cong \overline{MN}$, $\overline{KL} \cong \overline{NO}$



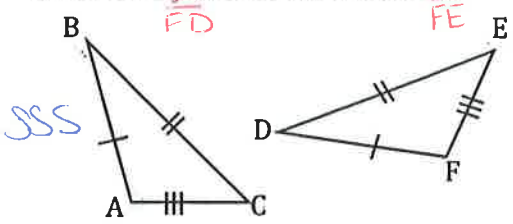
Prove: $\triangle JKL \cong \triangle MNO$

Statements	Reasons

22. Given: $\overline{AB} \cong \overline{DF}$, $\overline{BC} \cong \overline{DE}$, and $\overline{AC} \cong \overline{EF}$

FD FE C

SSS

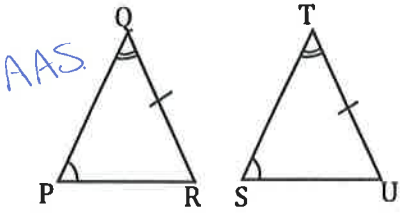


Prove: $\triangle ABD \cong \triangle FDE$

Statements	Reasons
(S) $\overline{AB} \cong \overline{FD}$	Given
(S) $\overline{BC} \cong \overline{DE}$	Given
(S) $\overline{AC} \cong \overline{FE}$	Given
$\triangle ABC \cong \triangle FDE$	SSS

23. Given: $\angle P \cong \angle S$, $\angle Q \cong \angle T$, and $\overline{QR} \cong \overline{TU}$

AAS

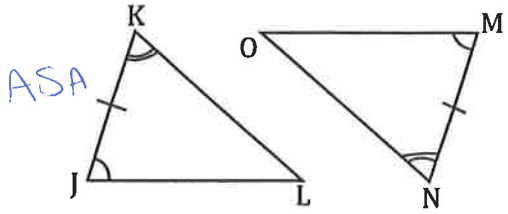


Prove: $\triangle PQR \cong \triangle STU$

Statements	Reasons
(A) $\angle P \cong \angle S$	Given
(A) $\angle Q \cong \angle T$	Given
(S) $\overline{QR} \cong \overline{TU}$	Given
$\triangle PQR \cong \triangle STU$	AAS

24. Given: $\angle J \cong \angle M$, $\overline{JK} \cong \overline{MN}$ and $\angle K \cong \angle N$

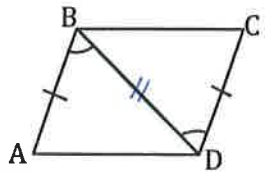
ASA



Prove: $\triangle JKL \cong \triangle MNO$

Statements	Reasons
(A) $\angle J \cong \angle M$	Given
(S) $\overline{JK} \cong \overline{MN}$	Given
(A) $\angle K \cong \angle N$	Given
$\triangle JKL \cong \triangle MNO$	ASA

25. Given: $\overline{AB} \cong \overline{CD}$, $\angle ABD \cong \angle CDB$

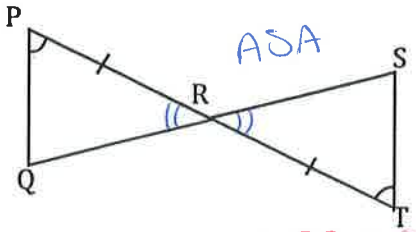


SAS

Prove: $\triangle ABD \cong \triangle CDB$

Statements	Reasons
(S) $\overline{AB} \cong \overline{CD}$	Given
(A) $\angle ABD \cong \angle CDB$	Given
(S) $\overline{BD} \cong \overline{BD}$	Reflexive prop $\cong$ $\angle$s
$\triangle ABD \cong \triangle CDB$	SAS

26. Given: $\overline{PR} \cong \overline{TR}$, $\angle P \cong \angle T$

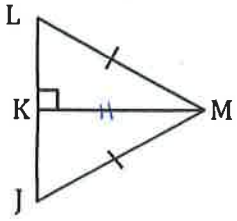


ASA

Prove: ~~$\triangle ABC \cong \triangle DBC$~~ $\triangle PRQ \cong \triangle TRS$

Statements	Reasons
(A) $\angle P \cong \angle T$	Given
(S) $\overline{PR} \cong \overline{TR}$	Given
(A) $\angle PRQ \cong \angle TRS$	Vertical $\angle$s are $\cong$
$\triangle PRQ \cong \triangle TRS$	ASA

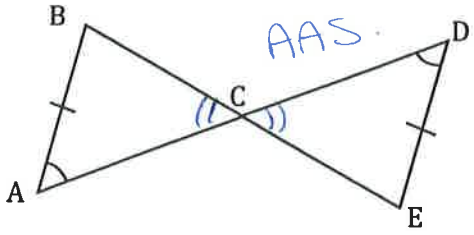
27. Given: $\overline{LM} \cong \overline{JM}$



Prove: $\triangle LKM \cong \triangle JKM$

Statements	Reasons

28. Given: $\overline{AB} \cong \overline{ED}$, $\angle A \cong \angle D$

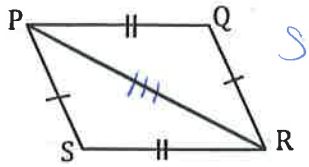


AAS

Prove: $\triangle ABC \cong \triangle DCE$

Statements	Reasons
(A) $\angle A \cong \angle D$	Given
(A) $\angle BCA \cong \angle ECD$	Vertical $\angle$'s are $\cong$
(S) $\overline{AB} \cong \overline{ED}$	Given
$\triangle ABC \cong \triangle DCE$	AAS

29. Given: $\overline{PS} \cong \overline{QR}$, $\overline{PQ} \cong \overline{SR}$

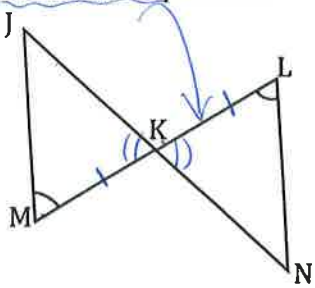


SSS

Prove: $\triangle PRS \cong \triangle RPQ$

Statements	Reasons
(S) $\overline{PS} \cong \overline{QR}$	Given
(S) $\overline{PQ} \cong \overline{SR}$	Given
(S) $\overline{PR} \cong \overline{PR}$	Reflexive prop $\cong$ Segs.
$\triangle PRS \cong \triangle RPQ$	SSS

30. Given: $\overline{JN}$ Bisects $\overline{ML}$, $\angle M \cong \angle L$

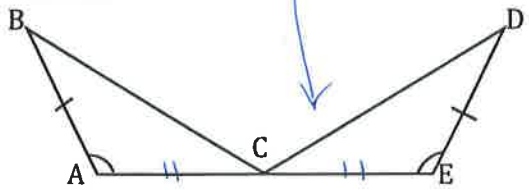


ASA

Prove: $\triangle MJK \cong \triangle LNK$

Statements	Reasons
(A) $\angle M \cong \angle L$	Given
$\overline{JN}$ bisects $\overline{ML}$	Given
(S) $\overline{MK} \cong \overline{LK}$	Def of seg. bisector
(A) $\angle JKM \cong \angle NKL$	Vertical $\angle$s are $\cong$
$\triangle MJK \cong \triangle LNK$	ASA

31. Given: C is the midpoint of $\overline{AE}$, $\overline{BA} \cong \overline{DE}$, and $\angle A \cong \angle E$

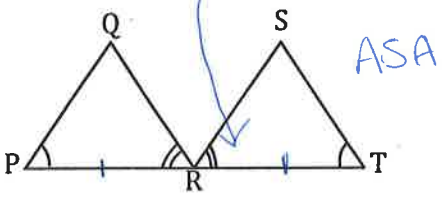


SAS

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

Statements	Reasons
(S) $\overline{BA} \cong \overline{DE}$	Given
(A) $\angle A \cong \angle E$	Given
C is midpt of $\overline{AE}$	Given
(S) $\overline{AC} \cong \overline{EC}$	def midpt
$\triangle ABC \cong \triangle EDC$	SAS

32. Given: R is the midpoint of $\overline{PT}$, $\angle P \cong \angle T$, and $\angle PRQ \cong \angle TRS$

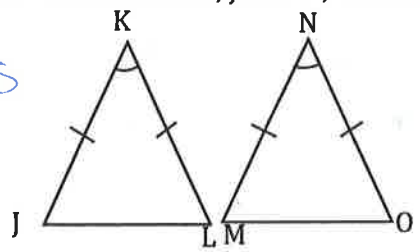


ASA

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

Statements	Reasons
(A) $\angle P \cong \angle T$	Given
R is midpt of $\overline{PT}$	Given
(S) $\overline{PR} \cong \overline{TR}$	def of midpt
(A) $\angle PRQ \cong \angle TRS$	Given
$\triangle PQR \cong \triangle TSR$	ASA

33. Given: $\angle K \cong \angle N$, $\overline{JK} \cong \overline{MN}$, $\overline{KL} \cong \overline{NO}$

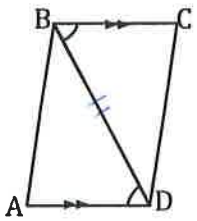


SAS

Prove: $\triangle JKL \cong \triangle MNO$

Statements	Reasons
(S) $\overline{JK} \cong \overline{MN}$	Given
(A) $\angle K \cong \angle N$	Given
(S) $\overline{KL} \cong \overline{NO}$	Given
$\triangle JKL \cong \triangle MNO$	SAS

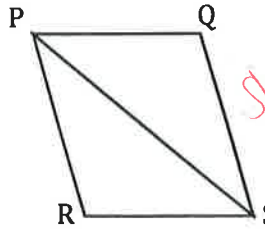
34. Given: $\overline{BA} \| \overline{CD}$ $\angle ADB \cong \angle CBD$



Skip

Prove: $\triangle ABD \cong \triangle CDB$

35.
Given: PQRS is a parallelogram



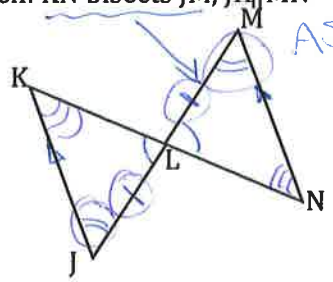
Skip

Prove: $\triangle RPS \cong \triangle QSP$

36 a)

Statements	Reasons
$\overline{JK} \| \overline{MN}$	Given
(A) $\angle J \cong \angle M$	alt. interior $\angle$s thm.
$\overline{KN}$ bisects $\overline{JM}$	Given
(S) $\overline{JL} \cong \overline{ML}$	def. seg. bisector
(A) $\angle KLM \cong \angle NLM$	vertical $\angle$s are $\cong$
$\triangle JKL \cong \triangle MNL$	ASA

36.
Given: $\overline{KN}$ bisects $\overline{JM}$, $\overline{JK} \| \overline{MN}$



ASA

AAS

Prove: $\triangle JKL \cong \triangle MNL$

There is a 3rd way to prove #36. Can you find it?

36b)

Statements	Reasons
$\overline{JK} \| \overline{MN}$	Given
(A) $\angle J \cong \angle M$	alt. int $\angle$s theorem
(A) $\angle K \cong \angle N$	Given
$\overline{KN}$ bisects $\overline{JM}$	def of seg bisector
(S) $\overline{JL} \cong \overline{ML}$	AAS
$\triangle JKL \cong \triangle MNL$	