

Triangle Congruence Proofs

Complete the following proofs. If marked with a star* complete the proof as a paragraph proof.

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



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



Triangle Congruence Proofs

Complete the following proofs. If marked with a star* complete the proof as a paragraph proof.

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

Statement	Reason
$\overline{AB} \cong \overline{CD}$	Given
$\angle ABD \cong \angle CDB$	Given
$\overline{BD} \cong \overline{DB}$	Reflexive Prop.
$\triangle ABD \cong \triangle CDB$	SAS

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

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

Prove: $\triangle PRQ \cong \triangle TRS$

It is given that $\overline{PR} \cong \overline{TR}$ and $\angle P \cong \angle T$.
 $\angle PRQ \cong \angle TRS$ by vertical angles Theorem.
 Thus $\triangle PRQ \cong \triangle TRS$ by ASA

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

Statement	Reason
$\overline{LM} \cong \overline{JM}$	Given
$\overline{KM} \cong \overline{KM}$	Reflexive Prop.
$\triangle LKM \cong \triangle JKM$	HL

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

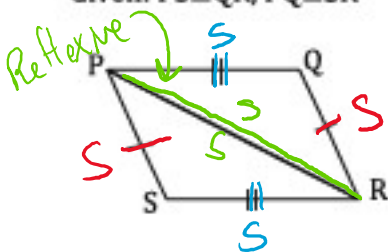
28. Given: $\overline{AB} \cong \overline{ED}$, $\angle A \cong \angle D$

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

Statement	Reason
$\overline{AB} \cong \overline{DE}$	Given
$\angle A \cong \angle D$	Given
$\angle BCA \cong \angle ECD$	Vert. \angle 's Thm.
$\triangle ABC \cong \triangle DEC$	AAS

* 29.

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



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

It is given that $\overline{PS} \cong \overline{RQ}$ and $\overline{PQ} \cong \overline{RS}$. By the reflexive property $\overline{PR} \cong \overline{RP}$. Thus, $\triangle PRS \cong \triangle RPQ$

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

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

Statement	Reason
\overline{JN} bisects \overline{ML}	Given
$\angle M \cong \angle L$	Given
$m\overline{MK} = m\overline{LK}$	Def. of bisect
$\overline{MK} \cong \overline{LK}$	Def. of \cong
$\angle JKM \cong \angle LKN$	Vert. \angle 's Thm.
$\triangle MJK \cong \triangle LNK$	ASA