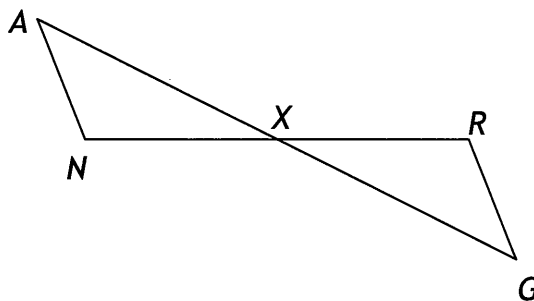


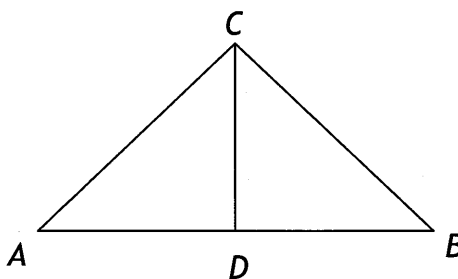
Proving Congruent Triangles

1. **Given:** X is midpoint of \overline{AG} and \overline{NR}
Prove: $\triangle ANX \cong \triangle GRX$



Statements	Reasons

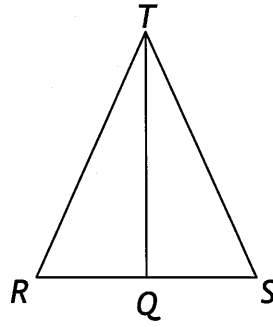
2. **Given:** $\overline{AC} \cong \overline{BC}$, $\overline{CD} \perp \overline{AB}$
Prove: $\triangle ACD \cong \triangle BCD$



Statements	Reasons

3. **Given:** \overline{TQ} is the median of $\triangle TRS$, $\overline{TR} \cong \overline{TS}$

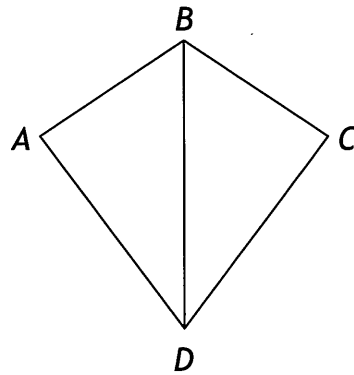
Prove: $\angle TRQ \cong \angle TSQ$



Statements	Reasons

4. **Given:** \overline{BD} bisects $\angle ABC$, and $\angle ADC$

Prove: $\triangle ABD \cong \triangle CBD$

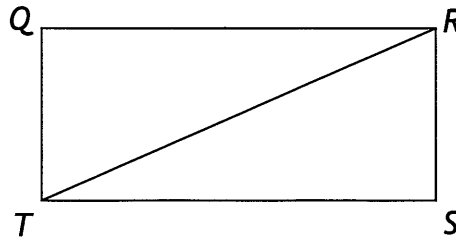


Statements	Reasons

5.

Given: $\angle TQR \cong \angle RST$, $\overline{QR} \parallel \overline{TS}$

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



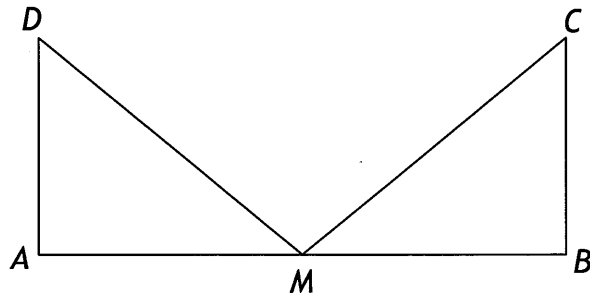
Statements	Reasons

6.

Given: $\overline{DA} \perp \overline{AB}$, $\overline{CB} \perp \overline{AB}$, $\overline{DA} \cong \overline{CB}$,

M is the midpoint of \overline{AB}

Prove: $\triangle ADM \cong \triangle BCM$

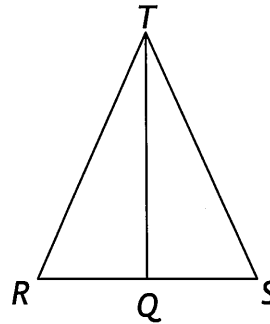


Statements	Reasons

Introducing a new definition!

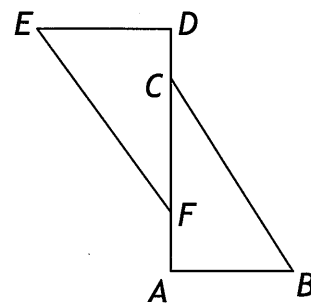
Since we are proving two triangles congruent, then it follows that their corresponding parts are congruent. We typically abbreviate this in a proof using **CPCTC** which stands for:

7. **Given:** \overline{TQ} bisects $\angle RTS$, $\overline{TQ} \perp \overline{RS}$
Prove: $\overline{RQ} \cong \overline{SQ}$



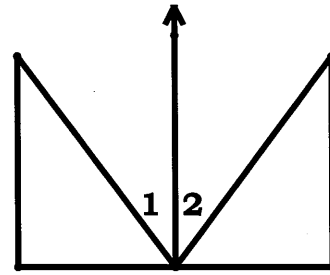
Statements	Reasons

8. **Given:** $\angle FED \cong \angle CBA$, $\overline{DC} \cong \overline{AF}$, $\overline{FD} \perp \overline{DE}$, $\overline{CA} \perp \overline{AB}$
Prove: $\overline{EF} \cong \overline{BC}$



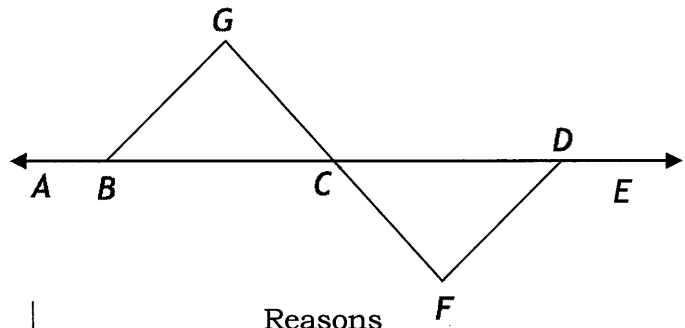
Statements	Reasons

9. **Given:** \overline{WZ} is the perpendicular bisector of \overline{UX} ,
 $\angle 1 \cong \angle 2$, $\overline{WV} \cong \overline{WY}$
Prove: $\angle V \cong \angle Y$



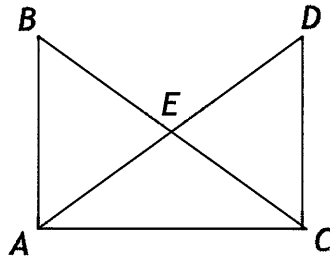
Statements	Reasons

10. **Given:** $\angle ABG \cong \angle EDF$, \overline{GF} bisects \overline{BD}
Prove: $\overline{GB} \cong \overline{FD}$



Statements	Reasons

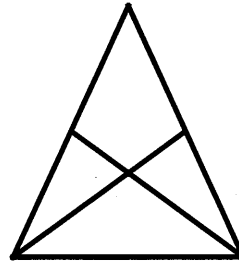
11. **Given:** $\angle B \cong \angle D$, $\overline{AC} \perp \overline{BA}$, $\overline{DC} \perp \overline{AC}$
Prove: $\overline{AB} \cong \overline{CD}$



Statements

Reasons

12. **Given:** $\overline{AB} \cong \overline{AC}$, \overline{CD} bisects \overline{AB} , \overline{BE} bisects \overline{AC}
Prove: $\overline{CD} \cong \overline{BE}$



Statements

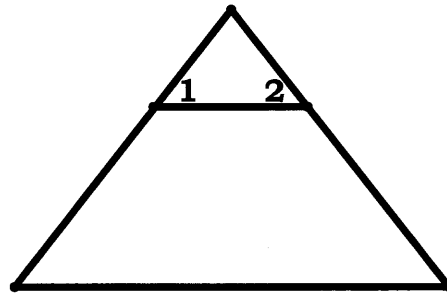
Reasons

Time to Step it Up a Notch!!

Isosceles Triangle Theorem

Isosceles Triangle Theorem - Corollary

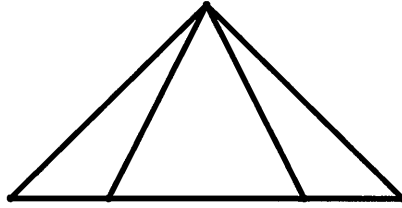
13. **Given:** $\overline{CA} \cong \overline{CE}$, $\overline{BA} \cong \overline{DE}$
Prove: $\angle 1 \cong \angle 2$



Statements

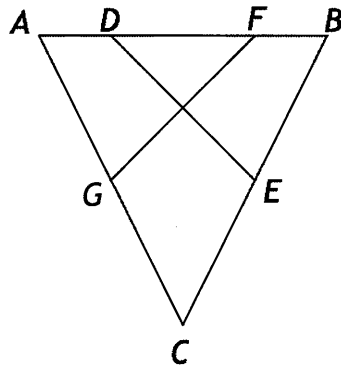
Reasons

14. **Given:** $\overline{AD} \cong \overline{BE}$, $\overline{CD} \cong \overline{CE}$, \overline{ADEB}
Prove: $\overline{AC} \cong \overline{BC}$



Statements	Reasons

15. **Given:** $\overline{AD} \cong \overline{FB}$, $\angle BDE \cong \angle AFG$, $\overline{AC} \cong \overline{BC}$
Prove: $\triangle AFG \cong \triangle BDE$

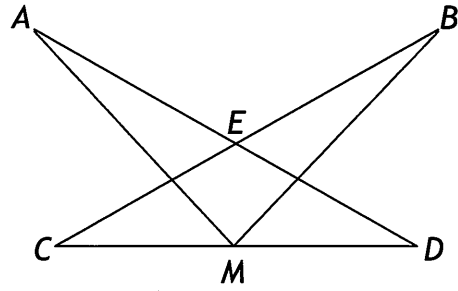


Statements	Reasons

16. **Given:** $\angle MAD \cong \angle MBC$, $\angle AMC \cong \angle BMD$

M is the midpoint of \overline{DC}

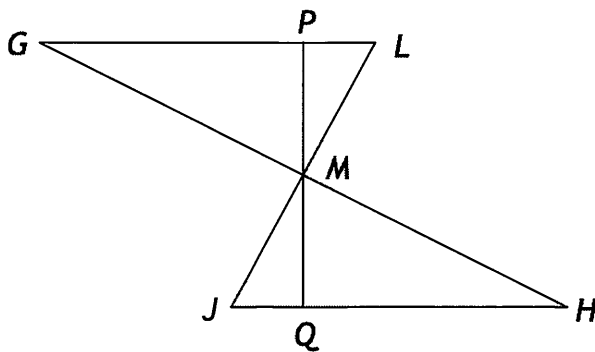
Prove: $\triangle CED$ is isosceles



Statements

Reasons

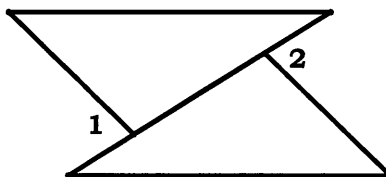
17. **Given:** \overline{GH} and \overline{JL} bisect each other
Prove: $\triangle JQM \cong \triangle LPM$



Statements

Reasons

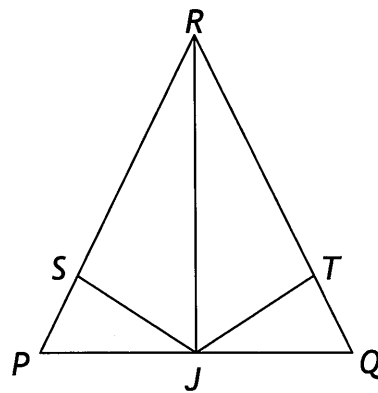
18. **Given:** $\overline{KP} \parallel \overline{MN}$, $\overline{ML} \cong \overline{PO}$, $\angle 1 \cong \angle 2$
Prove: $\triangle MON \cong \triangle PLK$



Statements

Reasons

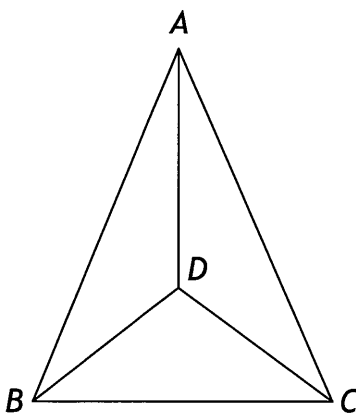
19. **Given:** $\overline{SJ} \perp \overline{PR}$, $\overline{TJ} \perp \overline{RQ}$, $\overline{RP} \cong \overline{RQ}$
 J is the midpoint of \overline{PQ}
Prove: $\triangle SJR \cong \triangle TJR$



Statements

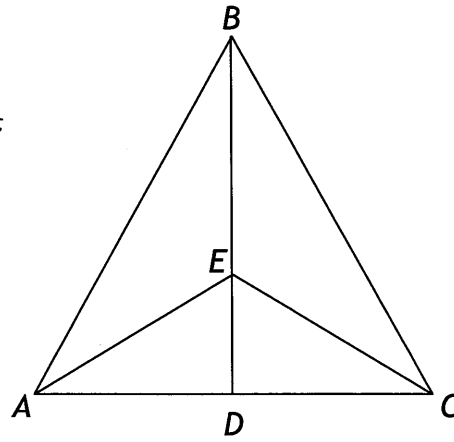
Reasons

20. **Given:** $\overline{AB} \cong \overline{AC}$, \overline{AD} bisects $\angle BAC$
Prove: $\angle DBC \cong \angle DCB$



Statements	Reasons

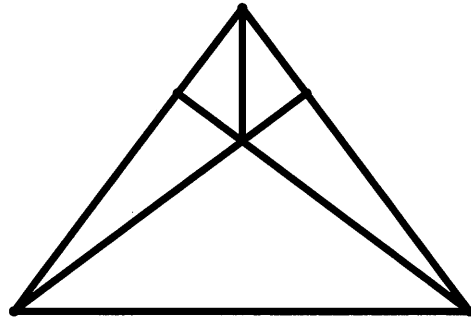
21. **Given:** $\angle BAD \cong \angle BCD$, D is the midpoint of \overline{AC}
Prove: $\overline{AE} \cong \overline{CE}$



Statements

Reasons

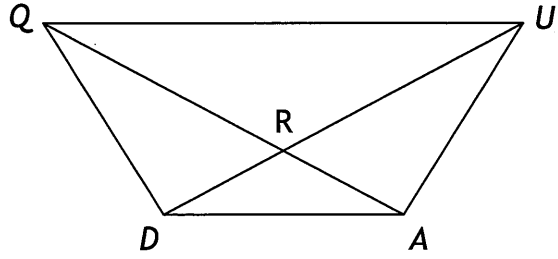
22. **Given:** $\overline{BE} \perp \overline{AC}$, $\overline{AD} \perp \overline{BC}$, $\overline{EF} \cong \overline{DF}$
Prove: $\triangle AEB \cong \triangle BDA$



Statements

Reasons

23. **Given:** $\angle QDA \cong \angle UAD$, $\overline{QD} \cong \overline{UA}$
Prove: $\triangle QDR \cong \triangle UAR$

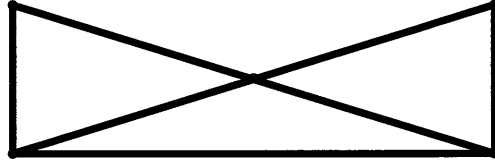


Statements

Reasons

24. **Given:** $\overline{GI} \cong \overline{JH}$, $\overline{GH} \perp \overline{HI}$, $\overline{JI} \perp \overline{HI}$

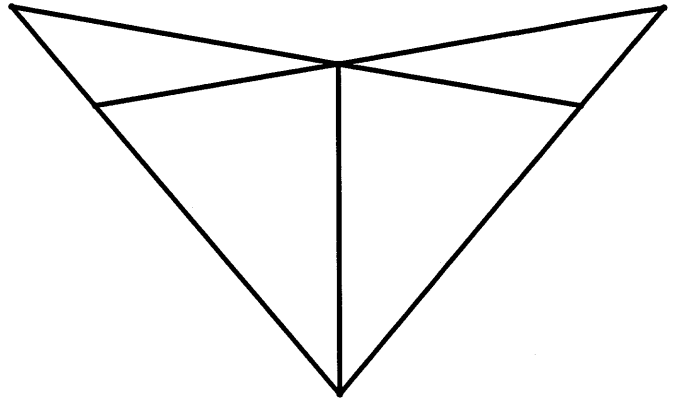
Prove: $\overline{GK} \parallel \overline{JK}$



Statements

Reasons

25. **Given:** $\angle BPQ \cong \angle DPQ$, $\overline{AP} \cong \overline{CP}$
Prove: $\overline{QB} \cong \overline{QD}$

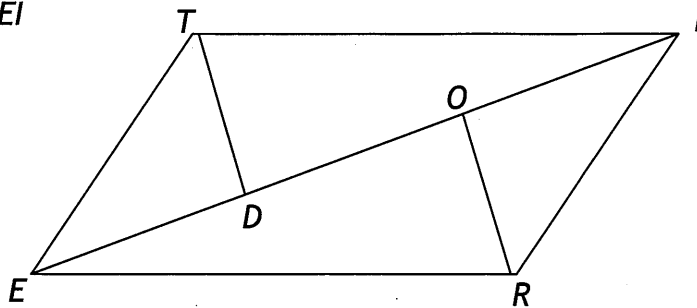


Statements

Reasons

26. **Given:** $\overline{EO} \cong \overline{ID}$, $\overline{ET} \cong \overline{IR}$, $\overline{TD} \perp \overline{EI}$, $\overline{RO} \perp \overline{EI}$

Prove: $\overline{TI} \parallel \overline{RE}$



Statements

Reasons

