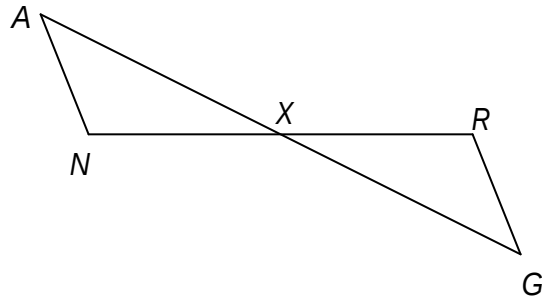


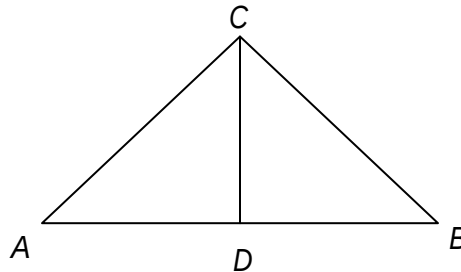
Proving Congruent Triangles

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



Statements	Reasons

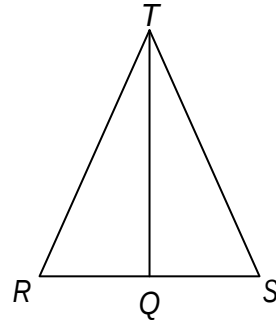
2. **Given:** $\overline{AC} \cong \overline{BC}$, $\overline{CD} \perp \overline{AB}$
Prove: $\triangle ACD \cong \triangle BCD$



Statements	Reasons

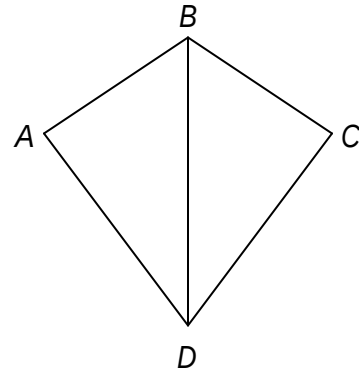
3. **Given:** $\overline{TQ}$ is the median of $\triangle TRS$, $\overline{TR} \cong \overline{TS}$

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



Statements	Reasons

4. **Given:** $\overline{BD}$ bisects $\angle ABC$, and $\angle ADC$
Prove: $\triangle ABD \cong \triangle CBD$

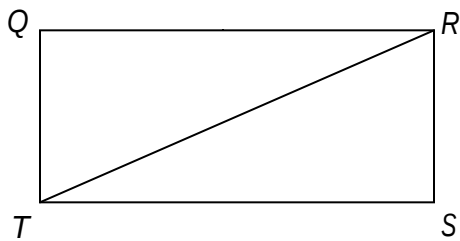


Statements	Reasons

5.

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

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



Statements

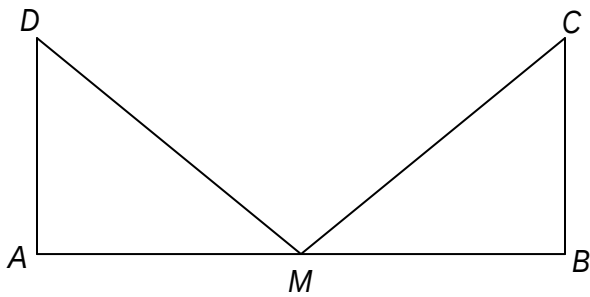
Reasons

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: $\triangle ADM \cong \triangle BCM$

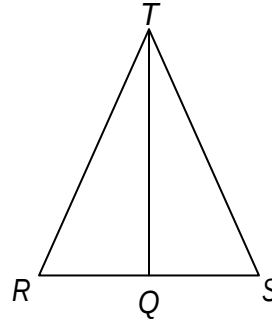


Statements

Reasons

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:

Prove: $\overline{RQ} \cong \overline{SQ}$

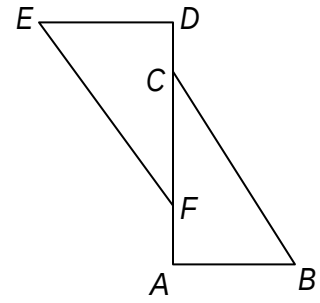


Statements	Reasons

8.

Given: $\angle FED \cong \angle CBA$, $\overline{DC} \cong \overline{AF}$, $\overline{FD} \perp \overline{DE}$, $\overline{CA} \perp \overline{AB}$

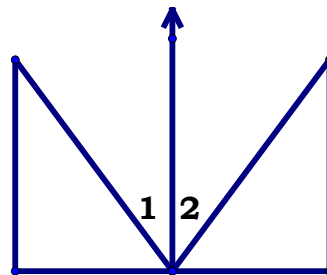
Prove: $\overline{EF} \cong \overline{BC}$



Statements

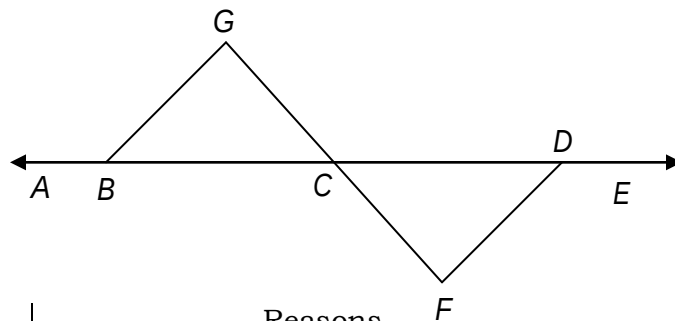
Reasons

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



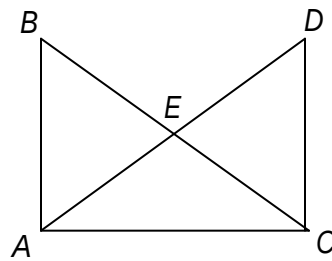
Statements	Reasons

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



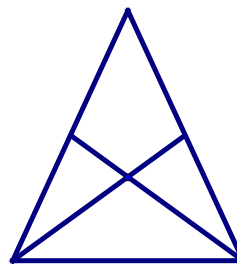
Statements	Reasons F

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: $\overline{CD} \cong \overline{BE}$



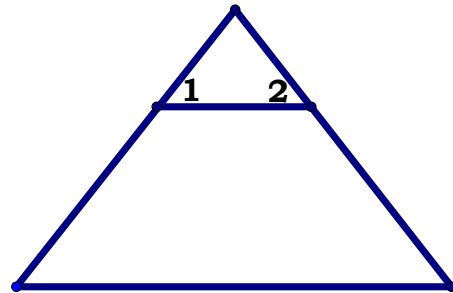
Statements	Reasons

Time to Step it Up a Notch!!

Isosceles Triangle Theorem

Isosceles Triangle Theorem - Corollary

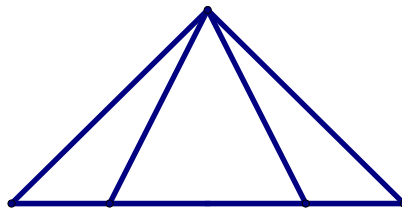
13. **Given:** $\overline{CA} \cong \overline{CE}$, $\overline{BA} \cong \overline{DE}$
Prove: $\angle 1 \cong \angle 2$



Statements

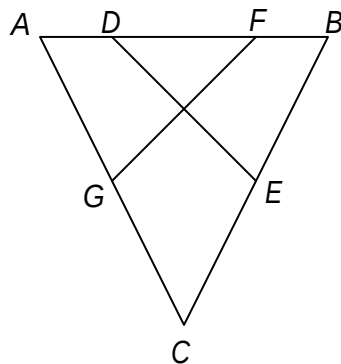
Reasons

14. **Given:** $\overline{AD} \cong \overline{BE}$, $\overline{CD} \cong \overline{CE}$, $\overleftrightarrow{ADEB}$
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: $\triangle AFG \cong \triangle BDE$

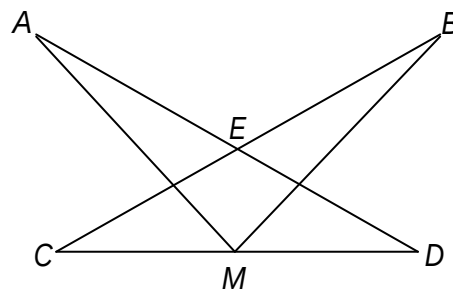


Statements	Reasons

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

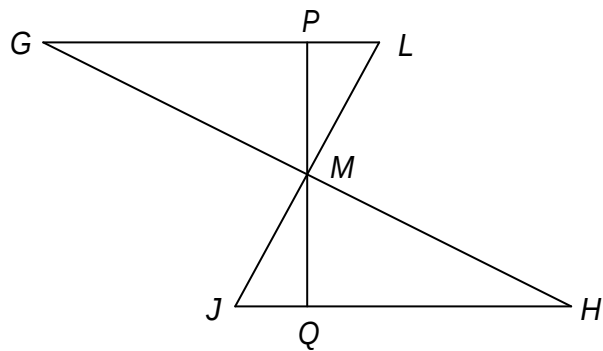
M is the midpoint of $\overline{DC}$

Prove: $\triangle CED$ is isosceles

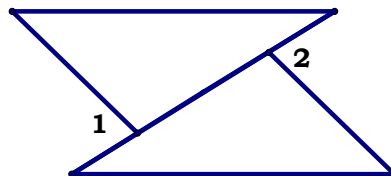


Statements	Reasons

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



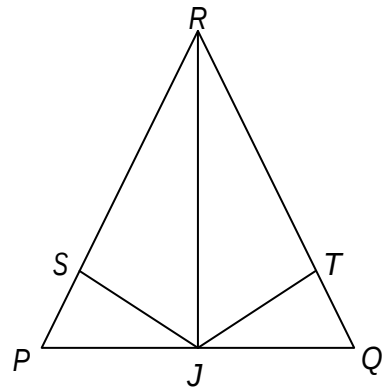
18. **Given:** $\overline{KP} \parallel \overline{MN}$, $\overline{ML} \cong \overline{PO}$, $\angle 1 \cong \angle 2$
Prove: $\triangle MON \cong \triangle PLK$



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: $\triangle SJR \cong \triangle TJR$

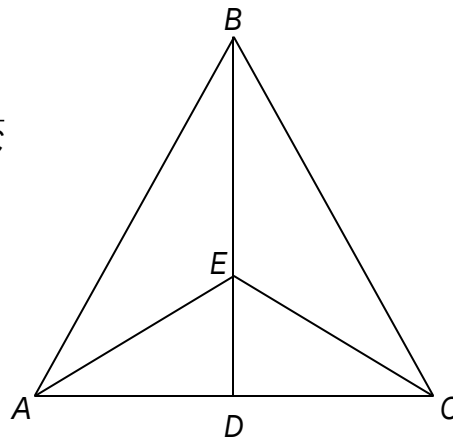


Statements

Reasons

Statements	Reasons

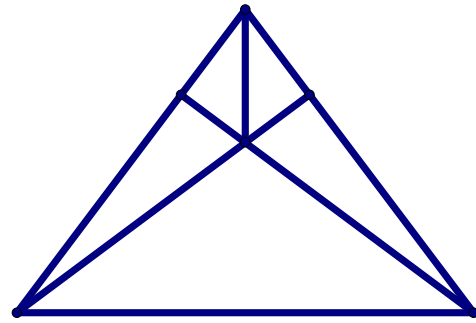
21. **Given:** $\angle BAD \cong \angle BCD$, D is the midpoint of $\overline{AC}$
Prove: $\overline{AE} \cong \overline{CE}$



Statements

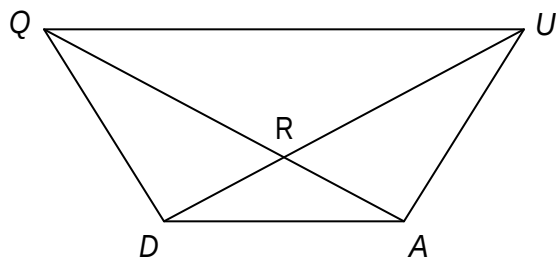
Reasons

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

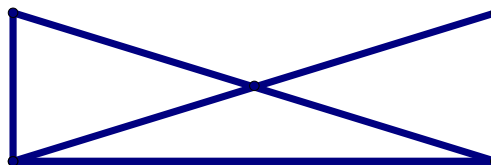
23. **Given:** $\angle QDA \cong \angle UAD$, $\overline{QD} \cong \overline{UA}$
Prove: $\triangle QDR \cong \triangle UAR$



Statements	Reasons

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

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

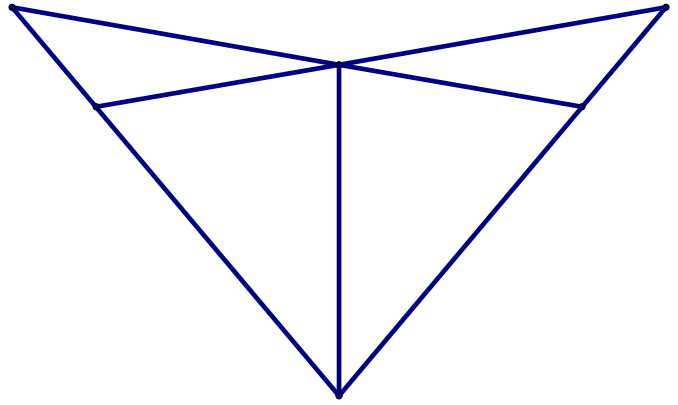


Statements

Reasons

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

Prove: $\overline{QB} \cong \overline{QD}$

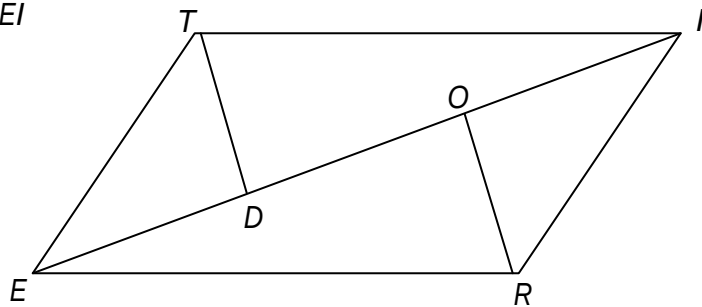


Statements

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