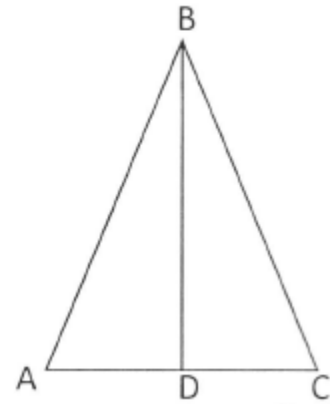


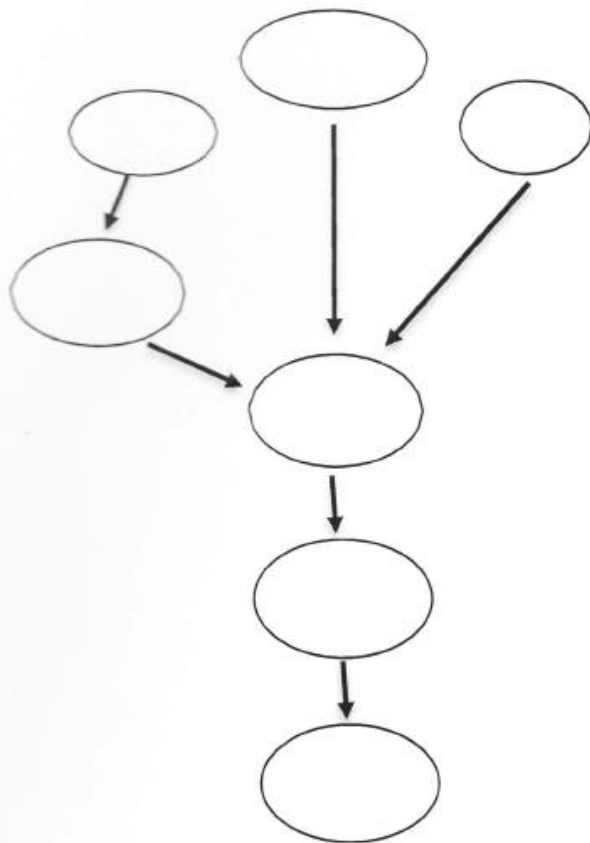
Honors Math 2
Proofs

Given: \overline{BD} is a perpendicular bisector of \overline{AC} .

Prove: $\triangle ABC$ isosceles.



Flow chart proof

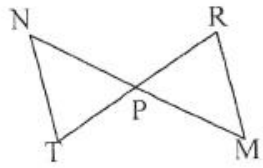


Two-Column Proof

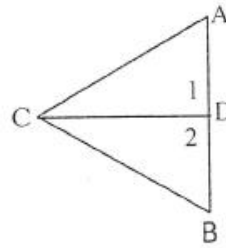
Statement	Reason

Paragraph Proof

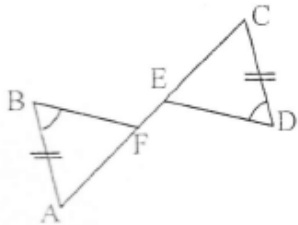
1. Given: \overline{TR} and \overline{MN} bisect each other.
 Prove: $\triangle NTP \cong \triangle MRP$



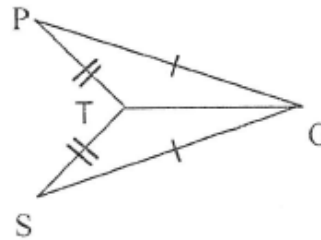
2. Given: \overline{CD} bisects $\angle ACB$; $\angle 1 \cong \angle 2$
 Prove: $\triangle CDA \cong \triangle CDB$



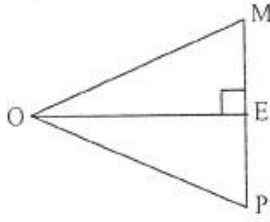
3. Given: $\overline{AB} \parallel \overline{CD}$, $\angle B \cong \angle D$,
 $\overline{AB} \cong \overline{CD}$
 Prove: $\triangle ABF \cong \triangle CED$



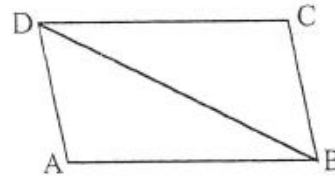
4. Given: $\overline{PG} \cong \overline{SG}$, $\overline{TP} \cong \overline{TS}$
 Prove: $\triangle TPG \cong \triangle TSG$



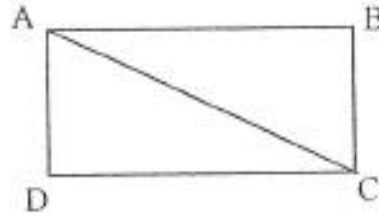
5. Given: $\overline{OE} \perp \overline{MP}$, \overline{OE} bisects $\angle MOP$
 Prove: $\triangle MOE \cong \triangle POE$



6. Given: $\overline{AD} \parallel \overline{BC}$, $\overline{DC} \parallel \overline{BA}$
 Prove: $\triangle ADB \cong \triangle CBD$



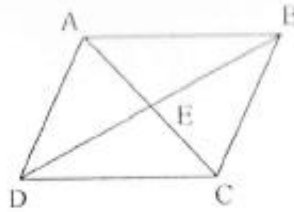
7. Given: $\overline{AD} \cong \overline{BC}$
 $\overline{AB} \cong \overline{DC}$
 Prove: $\overline{AD} \parallel \overline{BC}$



Statement	Reason
1. $\overline{AD} \cong \overline{BC}$	1.
2. $\overline{AB} \cong \overline{DC}$	2.
3. $\overline{AC} \cong \overline{AC}$	3.
4. $\triangle CAD \cong \triangle ACB$	4.
5. $\angle DAC \cong \angle BCA$	5.
6. $\overline{AD} \parallel \overline{BC}$	6.

8. Given: ABCD is a parallelogram

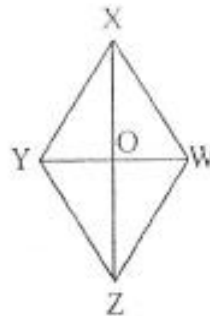
Prove: $\triangle ABE \cong \triangle CDE$



Statement	Reason
1.	1. Given
2.	2. In a parallelogram, opposite sides are congruent.
3.	3. In a parallelogram, diagonals bisect each other.
4.	4. In a parallelogram, diagonals bisect each other.
5.	5. Side-Side-Side congruence

9. Given: $\overline{YX} \cong \overline{WX}$
 \overline{ZX} bisects $\angle YXW$

Prove: $\overline{YZ} \cong \overline{WZ}$

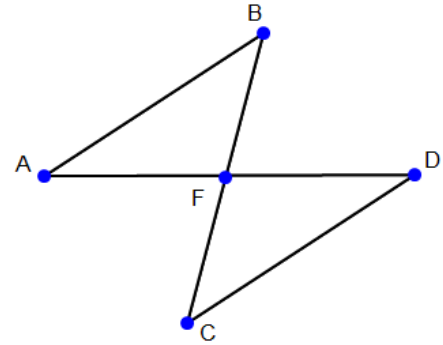


Statement	Reason
1. $\overline{YX} \cong \overline{WX}$	1.
2. \overline{ZX} bisects $\angle YXW$	2.
3. $\angle YXZ \cong \angle WXZ$	3.
4. $\overline{XZ} \cong \overline{XZ}$	4.
5. $\triangle YXZ \cong \triangle WXZ$	5.
6. $\overline{YZ} \cong \overline{WZ}$	6.

Triangle Congruence Proof Practice

Given: $\overline{AB} \parallel \overline{DC}$, F is the midpoint of BC

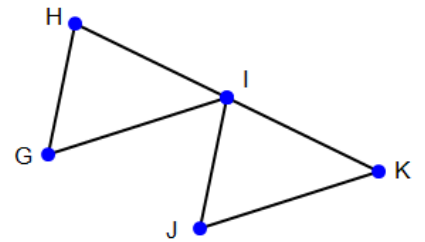
Prove: $\triangle ABF \cong \triangle DCF$



Statements	Reasons

Given: $\overline{GI} \parallel \overline{JK}$, $\overline{GI} \cong \overline{JK}$, I is the midpoint of \overline{HK}

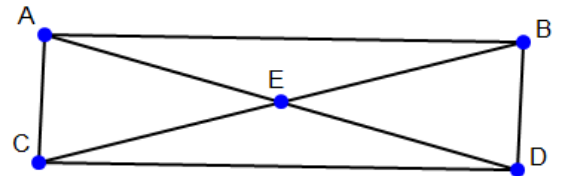
Prove: $\overline{HG} \cong \overline{IJ}$



Statements	Reasons

Given: E is the midpoint of \overline{AD} and \overline{BC}

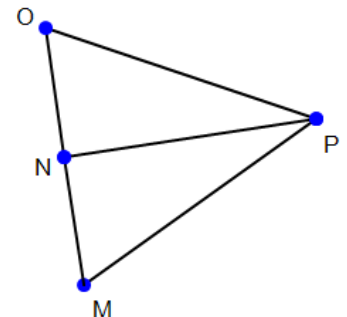
Prove: $\triangle ACE \cong \triangle DBE$



Statements	Reasons

Given: $\overline{OM} \perp \overline{NP}$, $\overline{OP} \cong \overline{MP}$

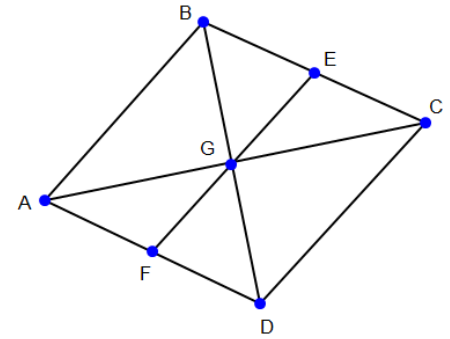
Prove: $\triangle ONP \cong \triangle MNP$



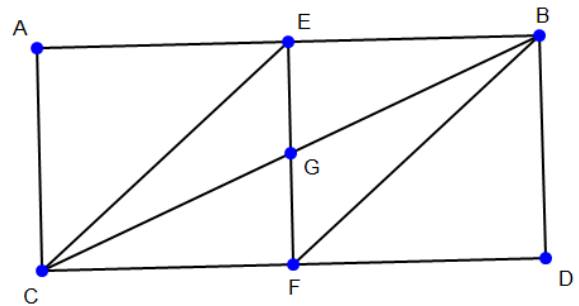
Statements	Reasons

Given: $\overline{AC} \perp \overline{BD}$, G is the midpoint of \overline{FE} and \overline{BD} , $\overline{BA} \cong \overline{DC}$

Prove: $\triangle AGF \cong \triangle CGE$



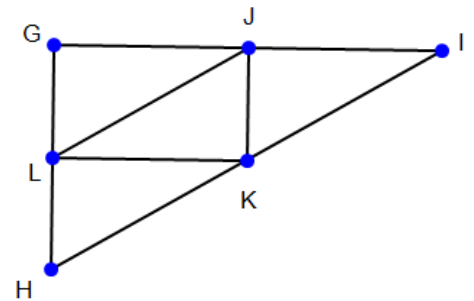
Statements	Reasons



Given: $\angle CAE$ and $\angle BDF$ are right angles, $\overline{FD} \cong \overline{EA}$, $\overline{BD} \cong \overline{CA}$, $\overline{CE} \parallel \overline{BF}$

Prove: $\overline{EG} \cong \overline{FG}$

Statements	Reasons



Given: $\overline{LJ} \parallel \overline{HI}$, $\overline{LJ} \cong \overline{KH}$

Prove: $\overline{JK} \cong \overline{HL}$

Statements	Reasons