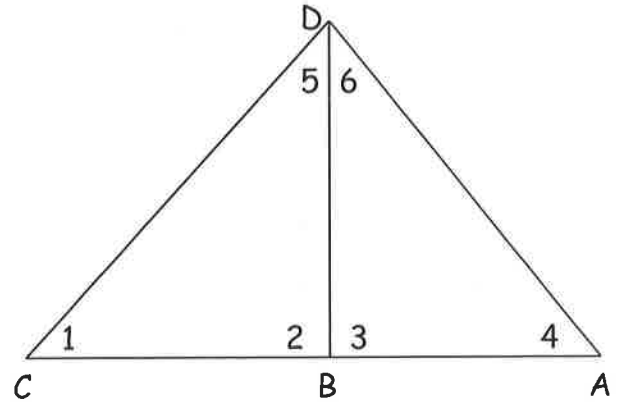


Given: B is the midpoint of CA;

$$DC \cong DA$$

Prove: $\angle 5 \cong \angle 6$

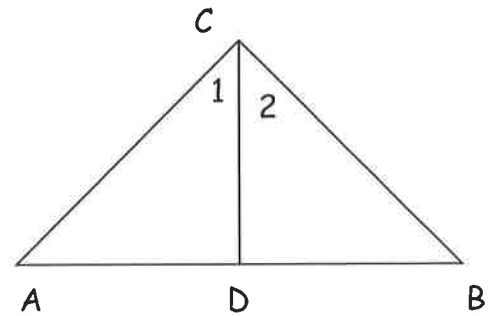


Statements

Reasons

Statements

Reasons

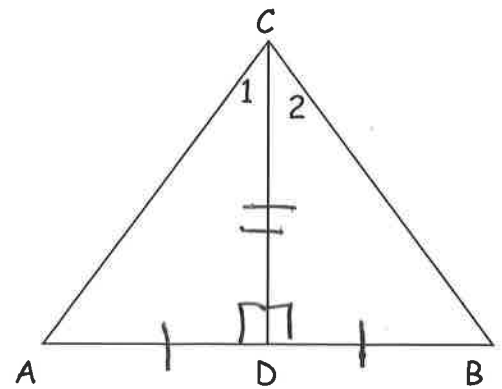


Given: D is the midpoint of AB;

$$CA \cong CB$$

Prove: CD bisects $\angle ACB$

OPTIONAL



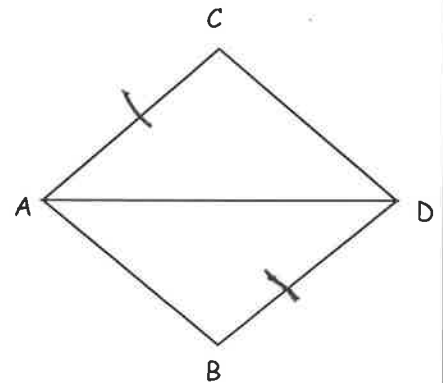
Given: CD is a median of $\triangle CAB$
 $CD \perp AB$

Prove: $\angle 1 \cong \angle 2$

Statements	Reasons
① CD is a median of $\triangle CAB$	① Given
② $AD \cong DB$	② Def. Definition of Median
③ $CD \perp AB$	③ Given
④ $\angle CDA$ and $\angle CDB$ are right angles	④ Def. of perp. lines
⑤ $m\angle CDA = 90, m\angle CDB = 90$	⑤ Def. of right angles
⑥ $m\angle CDA = m\angle CDB$ $\angle CDA \cong \angle CDB$	⑥ Def. Substitution
⑦ $CD \cong CD$	⑦ Reflexive Property
⑧ $\triangle CAD \cong \triangle CBD$	⑧ SAS
⑨ $\angle 1 \cong \angle 2$	⑨ CPCTC

Given: $AC \cong DB; \angle CAD \cong \angle BDA$

Prove: $CD \cong BA$



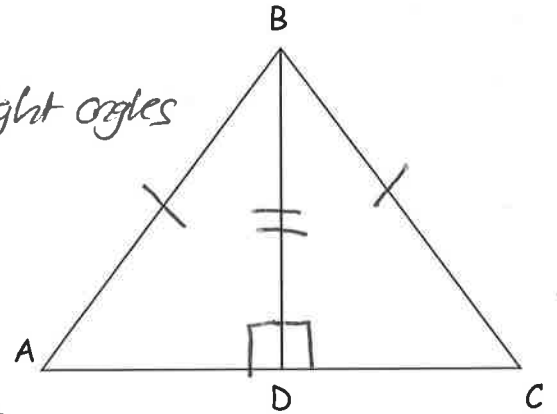
Statements	Reasons
① $AC \cong DB$	① Given
②	②

OPTIONAL

Given: BD is an altitude of $\triangle ABC$

$AB \cong CB$

Prove: BD bisects $\angle ABC$



Statements

Reasons

- ① BD is an altitude of $\triangle ABC$
- ② $\angle BDA$ and $\angle BDC$ are right angles
- ③ $m\angle BDA = 90^\circ, m\angle BDC = 90^\circ$
- ④ $m\angle BDA = m\angle BDC$
 $\angle BDA \cong \angle BDC$
- ⑤ $AB \cong CB$
- ⑥ $\overline{BD} \cong \overline{BD}$
- ⑦ $\triangle ABD \cong \triangle CBD$
- ⑧ $\angle ABD \cong \angle CBD$
- ⑨ BD bisects $\angle ABC$

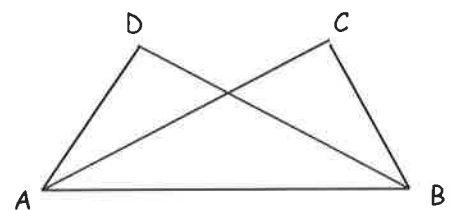
- ① Given
- ② Definition of Altitude
- ③ Definition of right angles
- ④ Substitution
- ⑤ Given
- ⑥ Reflexive Property
- ⑦ HL
- ⑧ CPCTC
- ⑨ Def of Angle Bisector

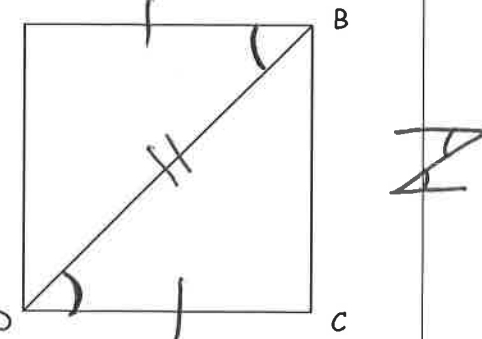
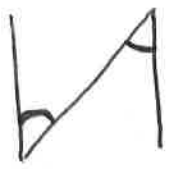
Given: $\angle C$ & $\angle D$ are right angles; $AD \cong BC$

Prove: $\triangle BAD \cong \triangle ABC$

Statements

Reasons



Statements	Reasons	Diagram
① $AB \parallel DC$	① Given	 <p data-bbox="1209 535 1469 651">Given: $AB \parallel DC$; $AB \cong DC$</p> <p data-bbox="1209 724 1469 766">Prove: $AD \parallel BC$</p> 
② $\angle ABD \cong \angle CDB$	② If two lines are parallel, then alternate interior angles are congruent	
③ $AB \cong DC$	③ Given	
④ $BD \cong BD$	④ Reflexive property	
⑤ $\triangle ABD \cong \triangle CDB$	⑤ SAS	
⑥ $\angle ADB \cong \angle CBD$	⑥ CPCTC	
⑦ $AD \parallel BC$	⑦ If alternate interior angles are congruent, then lines are parallel	

Statements	Reasons	Given: PR bisects $\angle QPS$ and $\angle QRS$ Prove: $RQ \cong RS$
		