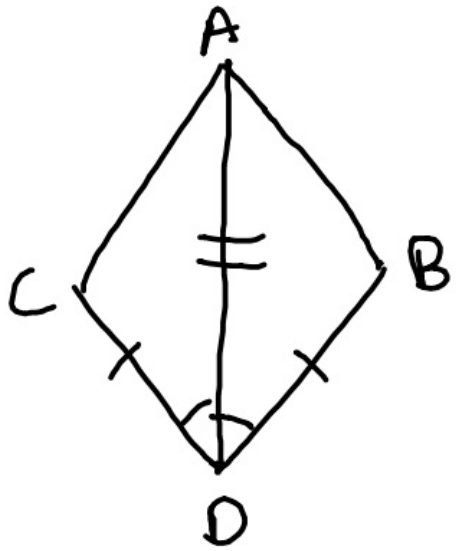
5-13-19 5th Geo

Given: $\overline{AD}$ bisects $\angle CDB$

$CD = BD$

Prove: $\angle C = \angle B$



Statement	Justification
① AD bisects ∠CDB	① Given
② ∠CDA ≅ ∠BDA	② Definition of Bisection
③ CD = BD	③ Given
④ AD = AD	④ Reflexive
⑤ △CDA ≅ △BDA	⑤ SAS
⑥ ∠C = ∠B	⑥ CPCTC

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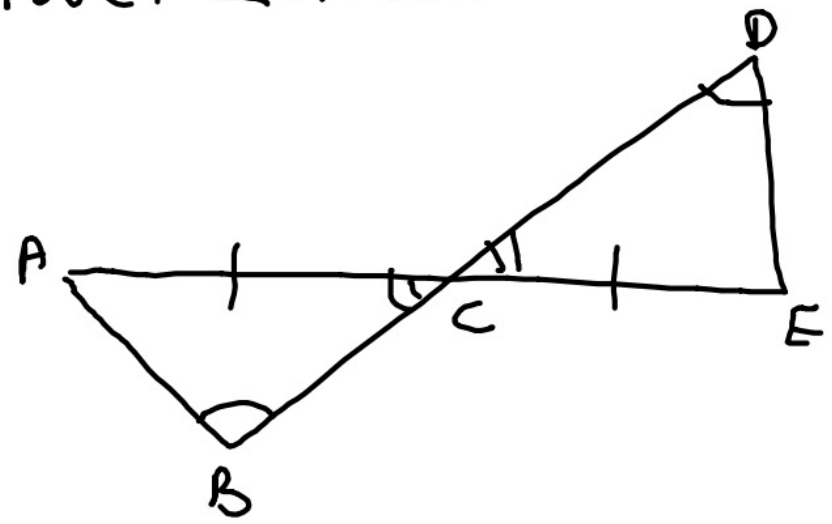
② Given: C is the midpoint of $\overline{AE}$

$\angle ABC = \angle EDC$

Prove: $\angle A = \angle E$



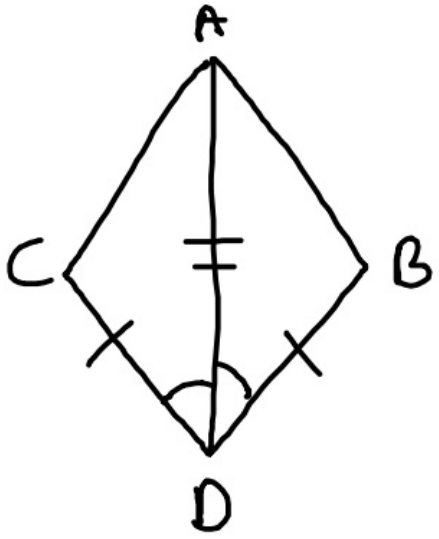
Statement	Justification
① C is midpoint of $\overline{AE}$	① Given
② $AC = CE$	② Def. of midpoint
③ $\angle ABC = \angle EDC$	③ Given
④ $\angle ACB = \angle ECD$	④ Vertical $\angle$s are $\cong$
⑤ $\triangle ABC \cong \triangle EDC$	⑤ AAS
⑥ $\angle A = \angle E$	⑥ CPCTC

5-13-19 6th Geo

① Given: $\overline{AD}$ bisects $\angle CDB$

$CD = BD$

Prove: $\angle C = \angle B$



Statement	Justification
① $\overline{AD}$ bisects $\angle CDB$	① Given
② $\angle CDA = \angle BDA$	② Definition of bisection
③ $CD = BD$	③ Given
④ $AD = AD$	④ Reflexive
⑤ $\triangle CDA \cong \triangle BDA$	⑤ SAS
⑥ $\angle C = \angle B$	⑥ CPCTC

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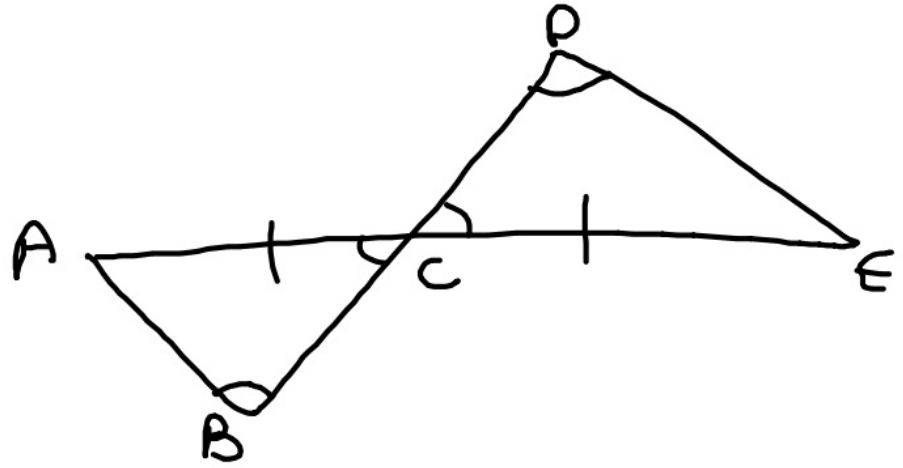
② Given: C is midpoint of $\overline{AE}$

$\angle ABC = \angle EDC$

Prove: $\angle A = \angle E$



Statement	Justification
① C is midpoint of $\overline{AE}$	① Given
② $AC = CE$	② Def. of midpoint
③ $\angle ABC = \angle EDC$	③ Given
④ $\angle ACB = \angle ECD$	④ Vertical $\angle$'s are $=$.
⑤ $\triangle BCA \cong \triangle DCE$	⑤ AAS
⑥ $\angle A = \angle E$	⑥ CPCTC

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