

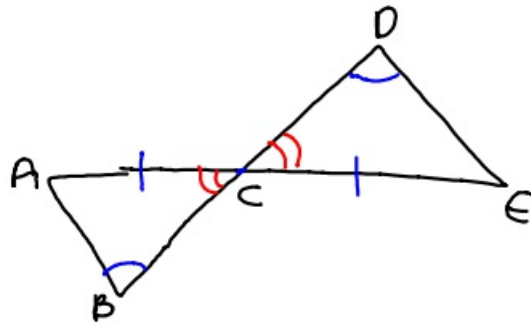
5-9-18 5<sup>th</sup> Geo

Given: C is the midpoint of

$\overline{AE}$

$$\angle ABC = \angle EDC$$

Prove:  $\angle A = \angle E$

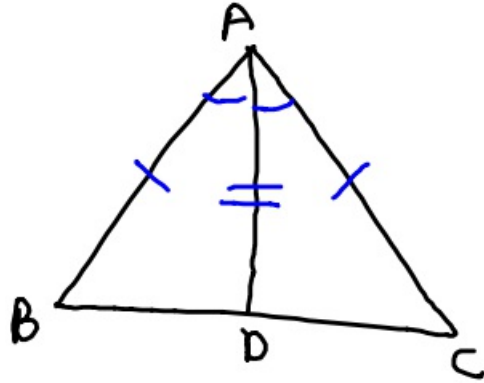


Statement	Justification
① C is the midpoint of $\overline{AE}$	① Given
② $AC \cong CE$	② Definition of a midpoint
③ $\angle ABC = \angle EDC$	③ Given
④ $\angle ACB = \angle ECD$	④ Definition of vertical $\angle$ (vertical $\angle$ 's are =)
⑤ $\triangle ABC \cong \triangle EDC$	⑤ AAS
⑥ $\angle A = \angle E$	⑥ Corresponding Parts of Congruent Triangles are Congruent [CPCTC]

Given:  $AB = AC$

$\overline{AD}$  bisects  $\angle BAC$

Prove:  $BD = DC$



Statement	Justification
① $AB = AC$	① Given
② $AD$ bisects $\angle BAC$	② Given
③ $\angle BAD \cong \angle CAD$	③ Definition of bisection
④ $AD = AD$	④ Reflexive
⑤ $\triangle BAD \cong \triangle CAD$	⑤ SAS
⑥ $BD = DC$	⑥ CPCTC

Given:  $\angle 1$  and  $\angle 2$  are  
Complementary angles

$$\angle 2 = 30^\circ$$

Prove:  $\angle 1 = 60^\circ$



Statement	Justification
① $\angle 1$ and $\angle 2$ are comp. $\angle$ s	① Given
② $\angle 1 + \angle 2 = 90^\circ$	② Definition of Complementary $\angle$ s
③ $\angle 2 = 30$	③ Given
④ $\angle 1 + 30^\circ = 90^\circ$	④ Substitution (lines 2 & 3)
⑤ $\angle 1 = 60$	⑤ Subtraction

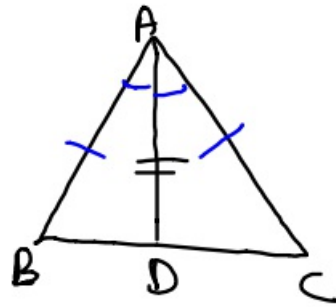
#

5-9-18 6<sup>th</sup> Geo

Given:  $AB = AC$

$\overline{DA}$  bisects  $\angle BAC$

Prove:  $BD = DC$



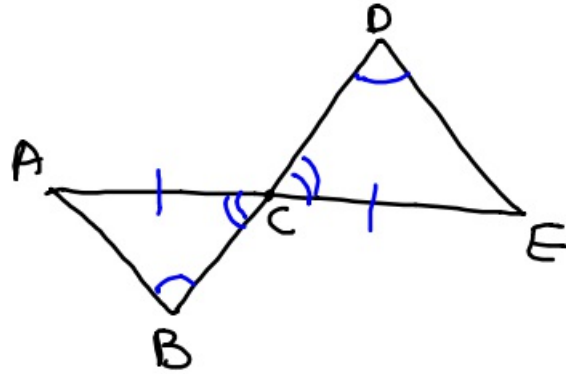
Statement	Justification
① $AB = AC$	① Given
② $\overline{DA}$ bisects $\angle BAC$	② Given
③ $\angle BAD \cong \angle CAD$	③ Definition of bisection
④ $AD = AD$	④ Reflexive
⑤ $\triangle BAD \cong \triangle CAD$	⑤ SAS
⑥ $BD = DC$	⑥ Corresponds Parts of Congruent Triangles are Congruent (CPCTC)

#

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

$$\angle ABC = \angle EDC$$

Prove:  $\angle A = \angle E$

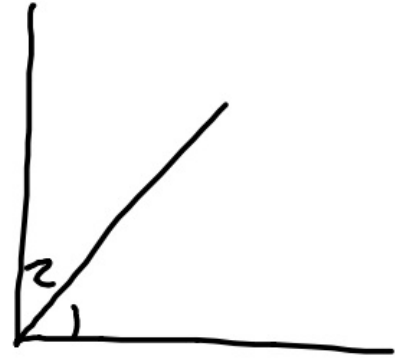


Statement	Justification
① $C$ is the midpoint of $\overline{AE}$	① Given
② $AC = CE$	② Definition of midpoint
③ $\angle ABC = \angle EDC$	③ Given
④ $\angle ACB = \angle ECD$	④ Vertical Angles are = (Def. of Vertical $\angle$ s)
⑤ $\triangle ACB \cong \triangle ECD$	⑤ AAS
⑥ $\angle A = \angle E$	⑥ CPCTC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

Given:  $\angle 1$  and  $\angle 2$  are complementary angles

$$\angle 2 = 30^\circ$$

Prove:  $\angle 1 = 60^\circ$



Statement	Justification
① $\angle 1$ and $\angle 2$ are complementary $\angle$ s	① Given
② $\angle 1 + \angle 2 = 90^\circ$	② Def. of complementary $\angle$ s
③ $\angle 2 = 30^\circ$	③ Given
④ $\angle 1 + 30^\circ = 90^\circ$	④ Substitution (lines 2 & 3)
⑤ $\angle 1 = 60^\circ$	⑤ Subtraction (30 B.S.)

#