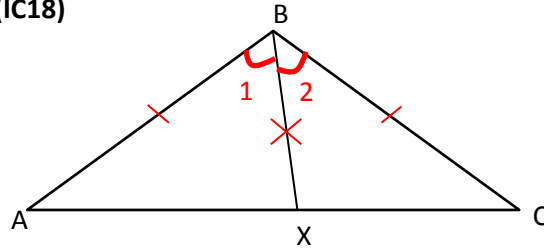


Geometry

Unit One B: Proof Workshop #2 (IC18)

1. Given:  $\overline{AB} \cong \overline{BC}$   
 $\overline{BX}$  bisect  $\angle ABC$

Prove:  $\overline{AX} \cong \overline{CX}$



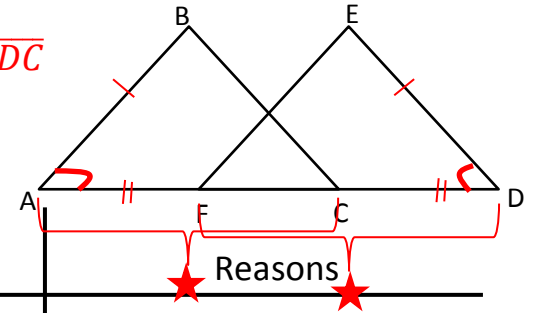
Statements	Reasons
1) $\overline{AB} \cong \overline{BC}$	1) Given
2) $\overline{BX}$ bisect $\angle ABC$	2) Given
3) $\angle 1 \cong \angle 2$	3) Def of $\angle$ bisector
4) $\overline{BX} \cong \overline{BX}$	4) Reflexive Prop
5) $\triangle ABX \cong \triangle CBX$	5) SAS
6) $\overline{AX} \cong \overline{CX}$	6) CPCTC

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

2. Given:  $\overline{AB} \cong \overline{DE}$ ;  $\overline{AF} \cong \overline{DC}$   
 $\angle A \cong \angle D$

Prove:  $\angle B \cong \angle E$

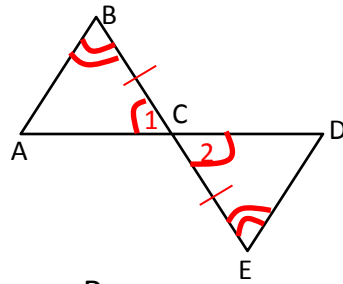


Statements	Reasons
1) $\overline{AB} \cong \overline{DE}$	1) Given
2) $\overline{AF} \cong \overline{DC}$	2) Given
3) $\overline{AC} \cong \overline{DF}$	3) Overlapping segs. Thm.
4) $\angle A \cong \angle D$	4) Given
5) $\triangle BAC \cong \triangle EDF$	5) SAS
6) $\angle B \cong \angle E$	6) CPCTC

3. Given:  $C$  is the midpt of  $\overline{BE}$

$$\angle B \cong \angle E$$

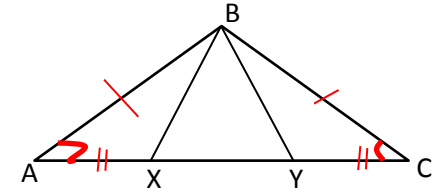
Prove:  $\overline{AB} \cong \overline{DE}$



4. Given:  $\overline{AB} \cong \overline{BC}$

$$\overline{AX} \cong \overline{CY}$$

Prove:  $\triangle BXY$  is isosceles with base  $\overline{XY}$



Statements

Reasons

1)  $C$  is the midpt of  $\overline{BE}$

1) Given

2)  $\overline{BC} \cong \overline{EC}$

2) Def of midpoint

3)  $\angle B \cong \angle E$

3) Given

4)  $\angle 1 \cong \angle 2$

4) Vertical  $\angle$ 's thm.

5)  $\triangle BCA \cong \triangle ECD$

5) ASA

6)  $\overline{AB} \cong \overline{DE}$

6) CPCTC

Statements

Reasons

1)  $\overline{AB} \cong \overline{BC}$

1) Given

2)  $\angle A \cong \angle C$

2) If  $\triangle$ , then  $\triangle$ .

OR Isosc  $\triangle$  thm

3)  $\overline{AX} \cong \overline{CY}$

3) Given

4)  $\triangle AXB \cong \triangle CYB$

4) SAS

5)  $\overline{BX} \cong \overline{BY}$

5) CPCTC

6)  $\triangle BXY$  is isosc w/base  $\overline{XY}$

6) Def of isosc  $\triangle$