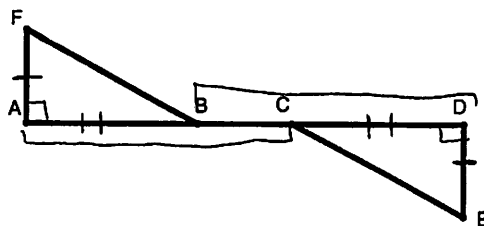


Proving Triangle Congruent Practice

Name Key

1. **Given:** $\overline{FA} \perp \overline{AD}$; $\overline{ED} \perp \overline{AD}$, $\overline{AF} \cong \overline{DE}$
 $\overline{AC} \cong \overline{DB}$

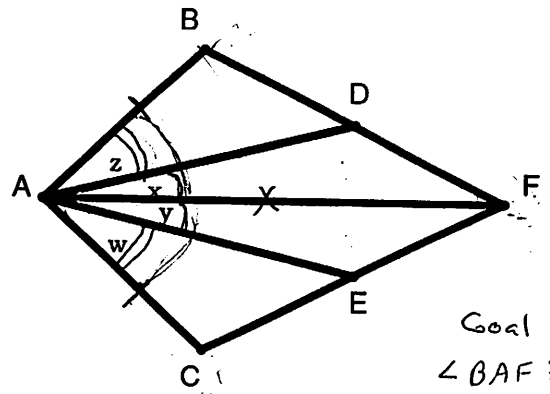
Prove: $\triangle ABF \cong \triangle DCE$



Statements	Reasons
① $\overline{FA} \perp \overline{AD}$ $\overline{ED} \perp \overline{AD}$ $\overline{AF} \cong \overline{DE}$ $\overline{AC} \cong \overline{DB}$	① Given
② $\overline{BC} \cong \overline{BC}$	② Reflexive Property
③ $\overline{AC} - \overline{BC} \cong \overline{DB} - \overline{BC}$	③ Subtraction Property of
④ $\overline{AB} \cong \overline{DC}$	④ Segment Subtraction ^{Equality} Postulate
⑤ $\angle A \cong \angle D$	⑤ If 2 segments are $\perp$ then 2 $\cong 90^\circ$ $\angle$'s formed
⑥ $\triangle ABF \cong \triangle DCE$	⑥ SAS

2. **Given:** $\overline{AB} \cong \overline{AC}$, $\angle x \cong \angle y$, $\angle z \cong \angle w$,
Prove: $\overline{FB} \cong \overline{FC}$

~~SAS~~



Goal
 $\angle BAF \cong \angle CAF$

Statements	Reasons
① $\overline{AB} \cong \overline{AC}$ $\angle x \cong \angle y$ $\angle z \cong \angle w$	① Given
② $\overline{AF} \cong \overline{AF}$	② Reflexive Property
③ $\angle z + \angle x \cong \angle w + \angle y$	③ Addition Prop. of Equality
④ $\angle BAF \cong \angle CAF$	④ Angle Addition Postulate
⑤ $\triangle BAF \cong \triangle CAF$	⑤ SAS
⑥ $\overline{FB} \cong \overline{FC}$	⑥ CPCTC