

Prove Triangles
Congruent - Practice Assignments

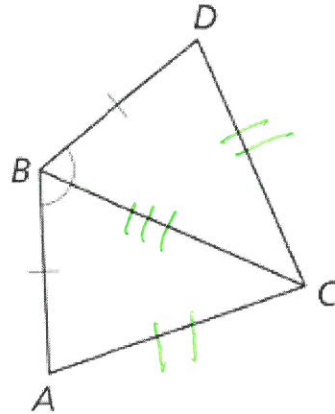
Complete proofs for each example. Use the 5 tips to help you get started.

1. Use the figure below and the following information.

Given: $\overline{AB} \cong \overline{DB}$

\overline{BC} bisects $\angle ABD$

Prove: $\overline{AC} \cong \overline{DC}$



$\overline{AB} \cong \overline{DB}$ | Given
 \overline{BC} bisects $\angle ABD$ | Given
 $\angle ABC \cong \angle CBD$ | definition of bisect
 $\overline{BC} \cong \overline{BC}$ | reflexive
 $\triangle ABC \cong \triangle CBD$ | SAS
 $\overline{AC} \cong \overline{DC}$ | CPCTC

Provide the missing reasons in the proof to show that $\overline{AC} \cong \overline{DC}$.

Statements	Reasons
a. $\overline{AB} \cong \overline{DB}$	Given
b. $m\angle ABC = m\angle CBD$? definition of bisect.
c. $\overline{BC} \cong \overline{BC}$? reflexive
d. $\triangle ABC \cong \triangle CBD$? SAS
e. $\overline{AC} \cong \overline{DC}$? CPCTC

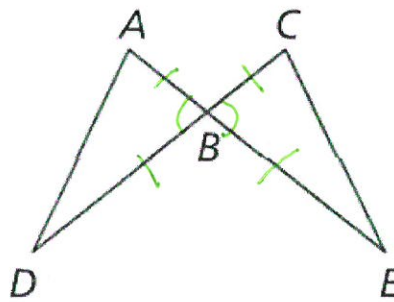
Complete proofs for each example. Use the 5 tips to help you get started.

2. Write a proof using this information.

Given $\overline{AB} \cong \overline{CB}$ and $\overline{BD} \cong \overline{BE}$

Prove $\triangle ABD \cong \triangle CBE$

$\overline{AB} \cong \overline{CB}$		Given
$\overline{BD} \cong \overline{BE}$		Given
$\angle ABD \cong \angle CBE$		vertical angles
$\triangle ABD \cong$ $\triangle CBE$		SAS



3. Write a proof using this information.

Given $\overline{SV} \cong \overline{UT}$ and $\overline{ST} \cong \overline{UV}$

Prove $\triangle STV \cong \triangle UVT$

$\overline{SV} \cong \overline{UT}$		Given
$\overline{ST} \cong \overline{UV}$		Given
$\overline{VT} \cong \overline{VT}$		reflexive
$\triangle STV \cong$ $\triangle UVT$		SSS

