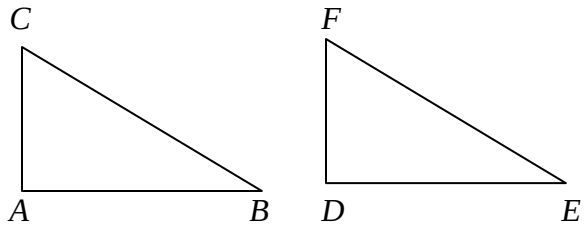
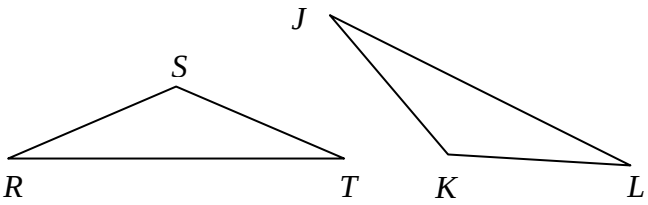
Congruent Triangle Proofs

Prove the following triangles congruent.

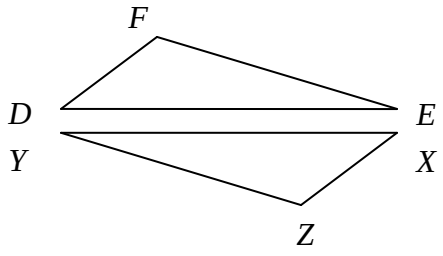
1. Given: $\overline{AC} \cong \overline{DF}$
   $\overline{AB} \cong \overline{DE}$
   $\angle A \cong \angle D$
   Prove: $\Delta ABC \cong \Delta DEF$



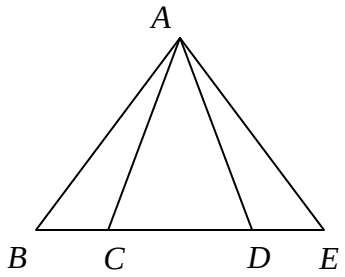
2. Given: $\overline{RS} \cong \overline{KL}$
   $\overline{ST} \cong \overline{JK}$
   $\overline{RT} \cong \overline{JL}$
   Prove: $\Delta RST \cong \Delta LKJ$



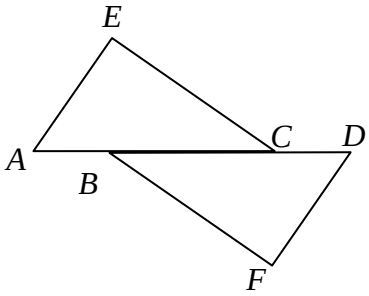
3. Given: $\angle D \cong \angle X$
   $\angle F \cong \angle Z$
   $\overline{DF} \cong \overline{XZ}$
   Prove: $\Delta DEF \cong \Delta XYZ$



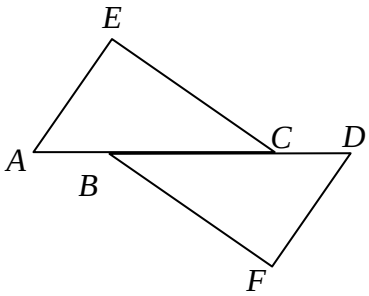
4. Given: $\overline{AC} \cong \overline{AD}$
   $\overline{AC} \cong \overline{AD}$
   $\overline{BC} \cong \overline{DE}$
   Prove: $\Delta ABC \cong \Delta AED$



5. Given: $\overline{AC} \cong \overline{BD}$
   $\angle A \cong \angle D$
   $\angle ACE \cong \angle DBF$
   Prove: $\Delta ACE \cong \Delta DBF$

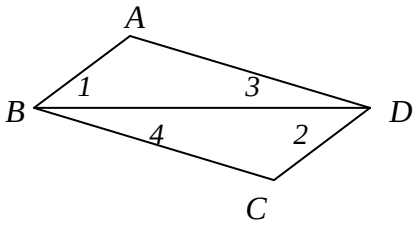


6. Given: $\overline{AC} \cong \overline{BD}$
   $\overline{AE} \cong \overline{DF}$
   $\angle A \cong \angle D$
   Prove: $\Delta CAE \cong \Delta BDF$

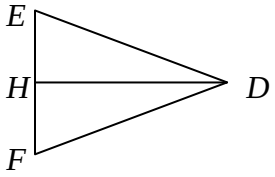


Proofs Using the Reflexive Property

7. Given: $\angle 1 \cong \angle 2$
   $\angle 3 \cong \angle 4$
   Prove: $\Delta ABD \cong \Delta CDB$



8. Given: $\overline{DE} \cong \overline{DF}$
   $\overline{EH} \cong \overline{HF}$
   Prove: $\Delta DHE \cong \Delta DHF$



9. Given: $\angle 1 \cong \angle 2$
   $\overline{AB} \cong \overline{CD}$
   Prove: $\Delta ABD \cong \Delta CDB$