

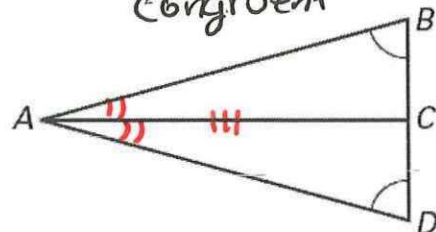
5-5 Using Congruent Triangles

Objective: Show corresponding parts of congruent triangles are congruent

C.P.C.T.C: corresponding parts of congruent triangles are congruent

Examples:

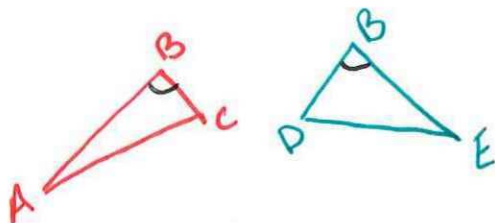
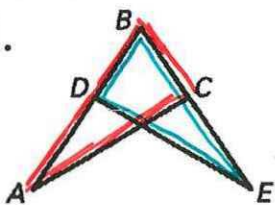
1. Given: \overline{AC} bisects $\angle BAD$, $\angle B \cong \angle D$
 Prove: $\overline{BC} \cong \overline{DC}$



Statements	Reasons
1. \overline{AC} bisects $\angle BAD$.	1. ? Given
2. ? $\angle BAC \cong \angle DAC$	2. Definition of angle bisector
3. ? $\angle B \cong \angle D$	3. Given
4. $\overline{AC} \cong \overline{AC}$	4. ? Reflexive Property
5. $\triangle ACB \cong \triangle ACD$	5. ? AAS
6. $\overline{BC} \cong \overline{DC}$	6. ? C.P.C.T.C

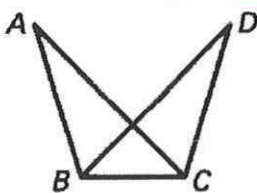
Redraw each diagram so that the triangles do not overlap.
 Label the vertices and mark any congruent sides or angles.

2.

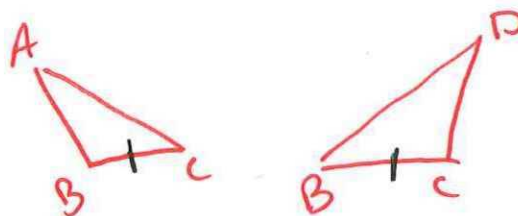


They share $\angle B$

3.

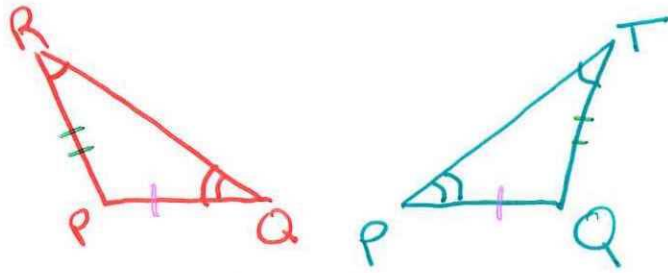
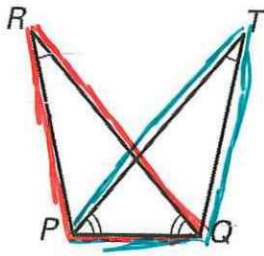


↑
shared



Share \overline{BC}

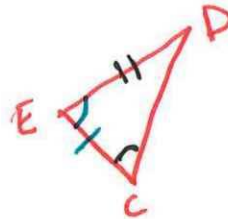
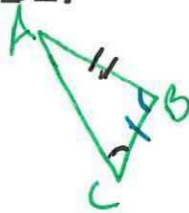
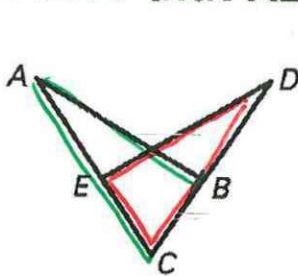
4. Redraw the triangle separately and label all congruences. Then show $\overline{RP} \cong \overline{TQ}$, given $\angle R \cong \angle T$ and $\angle RQP \cong \angle TPQ$.



$\triangle RQP \cong \triangle TPQ$ by AAS

$\overline{RP} \cong \overline{TQ}$ by CPCTC

5. In the diagram, $\overline{CB} \cong \overline{CE}$ and $\angle DEC \cong \angle ABC$. Prove that $\overline{AB} \cong \overline{DE}$.



Statements	Reasons
1. $\angle DEC \cong \angle ABC$	1. Given
2. $\overline{CB} \cong \overline{CE}$	2. Given
3. $\angle C = \angle C$	3. Reflexive Property of Congruence
4. $\triangle ABC \cong \triangle DEC$	4. ASA
5. $\overline{AB} \cong \overline{DE}$	5. CPCTC

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#10-20