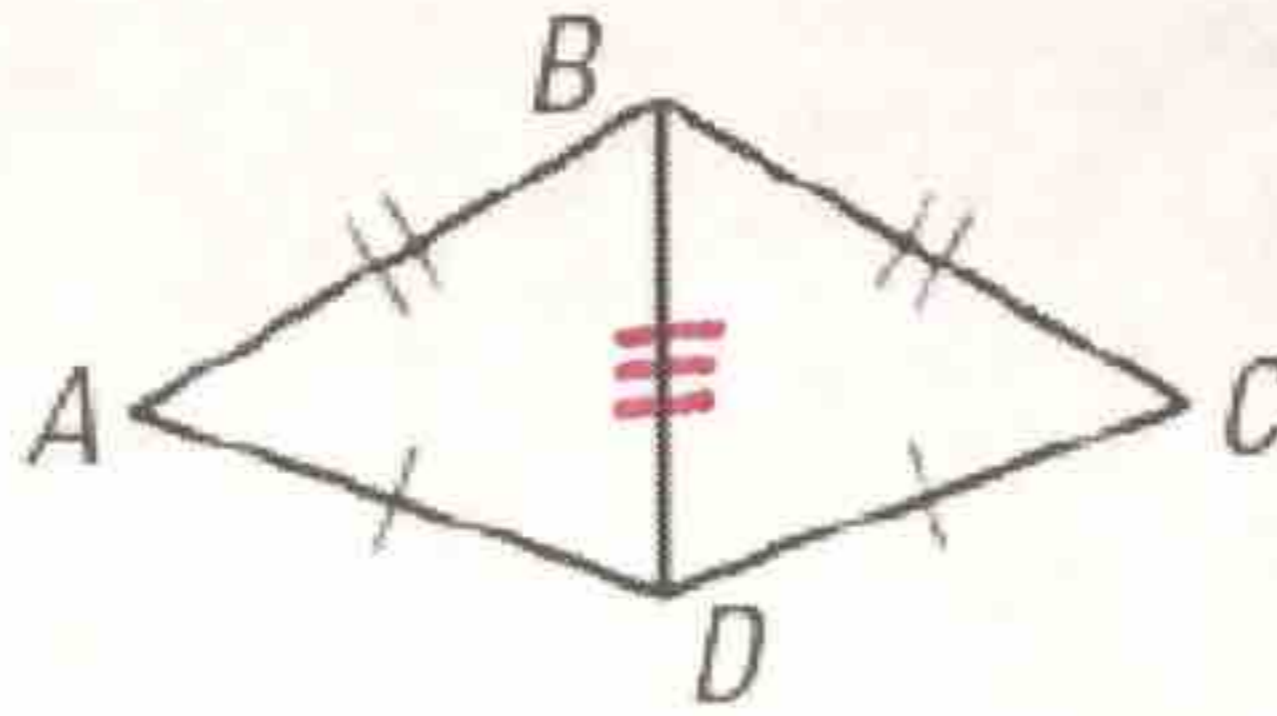


## 4.6 Use Congruent Triangles

By definition, congruent triangles have congruent corresponding parts. So if 2 triangles can be proven to be congruent, then their corresponding parts must be congruent as well.

**CPCPTC = Corresponding Parts of Congruent Triangles are Congruent!**

Ex 1: Prove  $\angle A \cong \angle C$ .



STATEMENTS

1.  $\overline{AB} \cong \overline{BC}, \overline{AD} \cong \overline{DC}$
2.  $\overline{BD} \cong \overline{BD}$
3.  $\triangle ABD \cong \triangle CBD$
4.  $\angle A \cong \angle C$

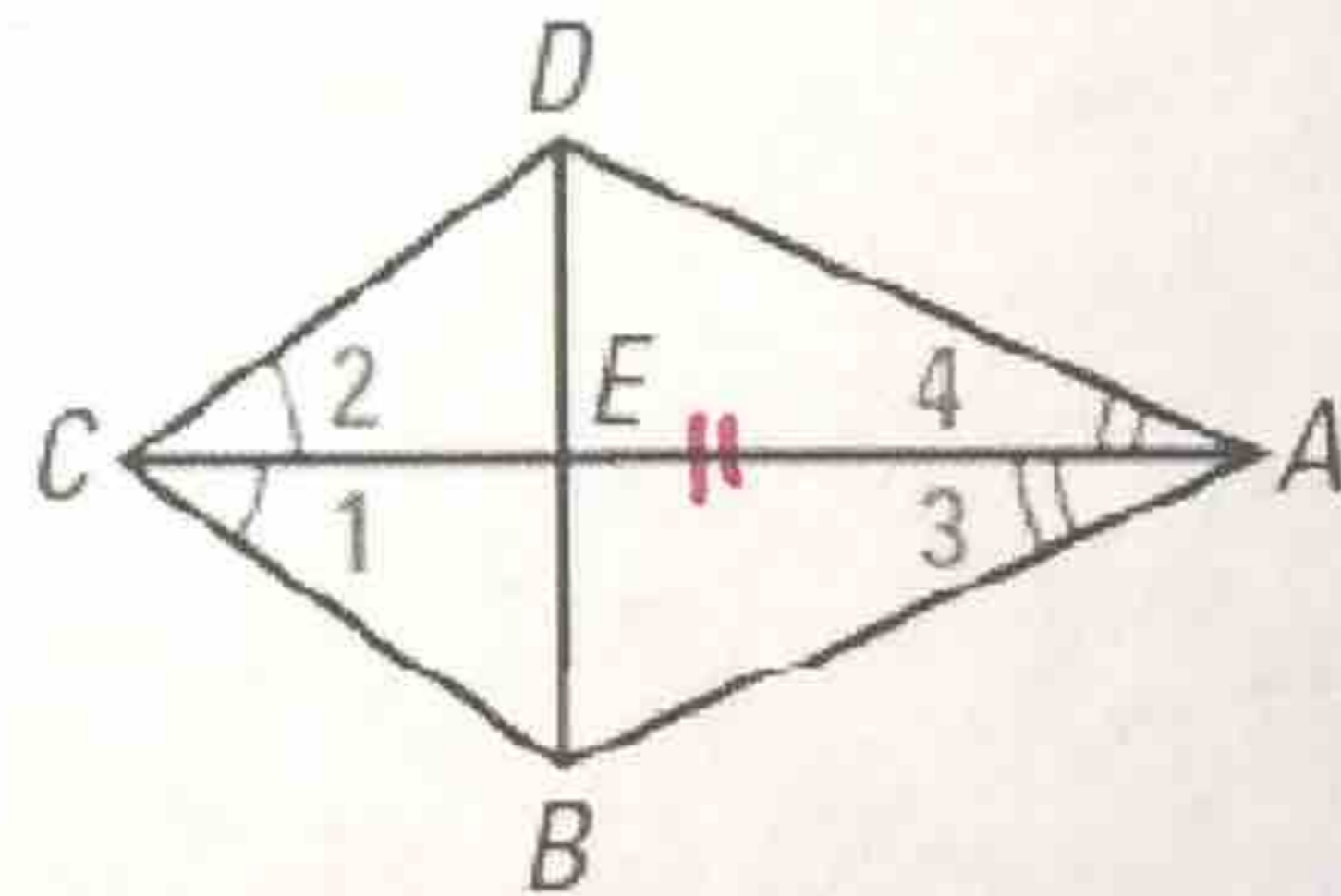
REASONS

1. Given on diagram
2. Reflexive Property
3. SSS
4. CPCTC

Ex 2: Write a proof (NOT PLAN FOR PROOF).

**GIVEN**  $\triangleright \angle 1 \cong \angle 2, \angle 3 \cong \angle 4$

**PROVE**  $\triangleright \triangle BCE \cong \triangle DCE$



STATEMENTS

1.  $\angle 1 \cong \angle 2, \angle 3 \cong \angle 4$
2.  $\overline{CA} \cong \overline{CA}$
3.  $\triangle CBA \cong \triangle CDA$
4.  $\overline{CE} \cong \overline{CE}$
5.  $\overline{CB} \cong \overline{CD}$
6.  $\triangle BCE \cong \triangle DCE$

REASONS

1. Given
2. Reflexive Property
3. ASA
4. Reflexive Property
5. CPCTC
6. SAS