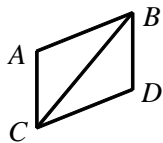
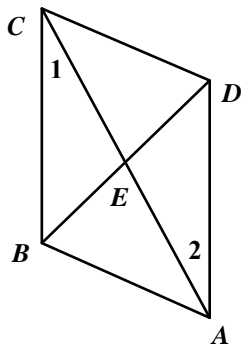


NAME: \_\_\_\_\_

1. Given:  $\overline{AB} \cong \overline{DC}$  and  $\overline{AC} \cong \overline{DB}$ . Prove:  $\triangle ABC \cong \triangle DCB$ .



2. Given:  $\overline{BC} \cong \overline{DA}$ ,  $\angle 1 \cong \angle 2$ . Prove:  $\triangle BEA \cong \triangle DEC$ .



3. Given quadrilateral  $ABCD$  with  $\angle BAC \cong \angle ACD$  and  $\overline{AB} \cong \overline{CD}$ . Write a paragraph proof, a flow proof, or a two-column proof to show  $ABCD$  is a parallelogram.

[1]  $\overline{BC}$  is congruent to  $\overline{CB}$  by the reflexive property. So  $\triangle ABC$  is congruent to  $\triangle DCB$  by SSS.

$\angle BEC \cong \angle DEA$  by vertical angles.  $\triangle BEC \cong \triangle DEA$  by AAS. Then by CPCTC,

[2]  $\overline{BE} \cong \overline{DE}$ , and  $\overline{AE} \cong \overline{CE}$ .  $\angle BEA \cong \angle DEC$  by vertical angles, so  $\triangle BEA \cong \triangle DEC$  by SAS.

Check students' work. Show  $\triangle ABC \cong \triangle CDA$  by SAS and that  $ABCD$  is a parallelogram since both pairs of opposite sides of a quadrilateral are congruent.

---