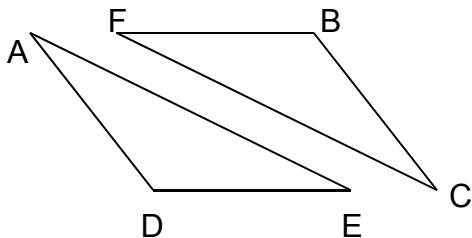


## Proving Triangles Congruent using SSS, SAS, AAS and ASA

For the following sets of triangles, perform the following:

- diagram the congruencies
- decide if the triangles are congruent by one of the four postulates/theorems
- write the congruence statement. If not possible, write that and give a brief explanation why.

1.



$$\overline{LA} \cong \overline{LC}, \overline{LE} \cong \overline{LF}, \overline{AE} \cong \overline{CF}$$

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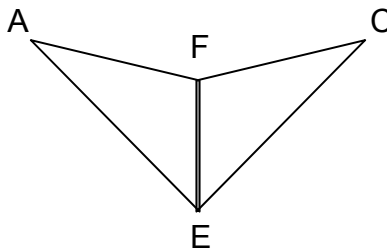


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2.



$$\overline{AF} \cong \overline{CF}, \overline{AE} \cong \overline{CE}$$

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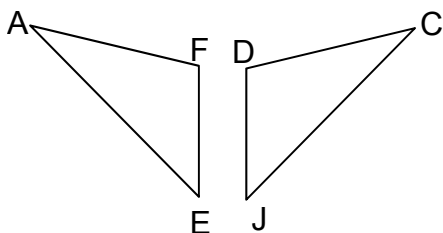


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3.



$$\overline{LA} \cong \overline{LC}, \overline{LE} \cong \overline{LJ}, \overline{FE} \cong \overline{DJ}$$

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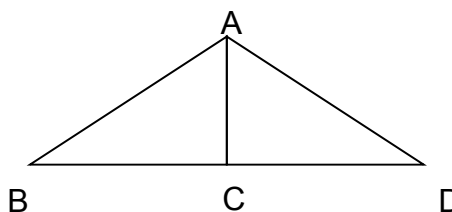


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4.



$$\overline{LB} \cong \overline{LD}, \overline{AC} \perp \overline{BD}$$

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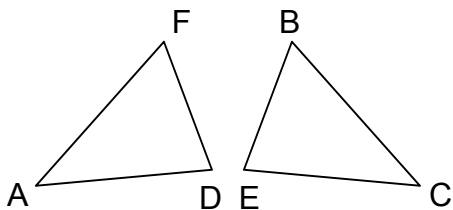


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5.



$$\overline{LD} \cong \overline{LE}, \overline{FD} \cong \overline{BE}, \overline{AD} \cong \overline{CE}$$

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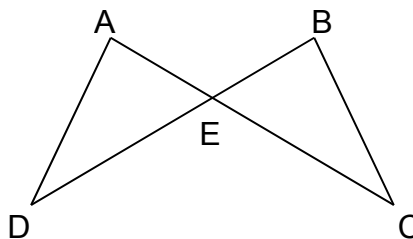


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6.



$$\overline{AD} \cong \overline{BC}, \overline{AE} \cong \overline{BE}$$

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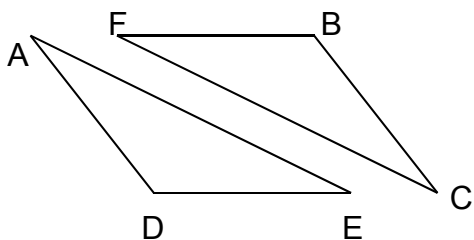


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For the following sets of triangles, perform the following:

- a.) diagram the congruencies
- b.) decide if the triangles are congruent **by the listed postulate or theorem**
- c.) write the congruence statement. If not possible, write that and give a brief explanation why.

7.



$LD \cong LB, LE \cong LF, \overline{AD} \cong \overline{CD}$  AAS

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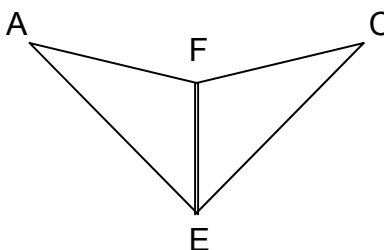


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8.



$LAEF \cong LCEF, \overline{AF} \cong \overline{CF}$  ASA

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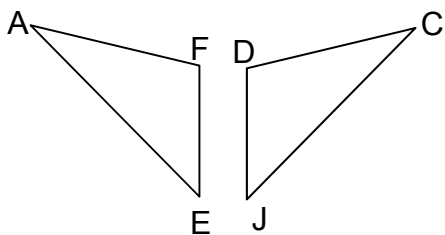


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9.



$\overline{AE} \cong \overline{CJ}, \overline{EF} \cong \overline{JD}, \overline{LE} \cong \overline{LJ}$  SAS

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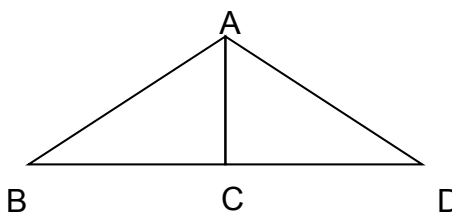


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10.



$\overline{AB} \cong \overline{AD}, \overline{BC} \cong \overline{DC}$  SSS

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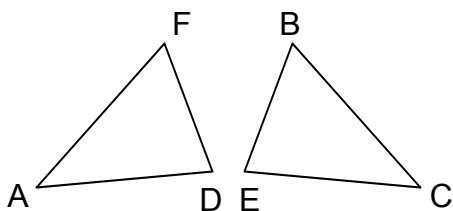


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11.



$LA \cong LC, LD \cong LE, \overline{AD} \cong \overline{CE}$  ASA

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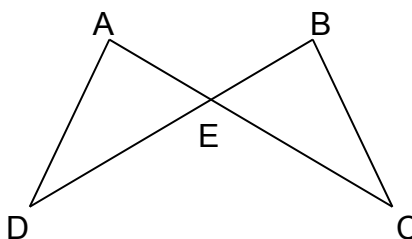


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12.



$LD \cong LC, \overline{DE} \cong \overline{CE}$  SAS

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