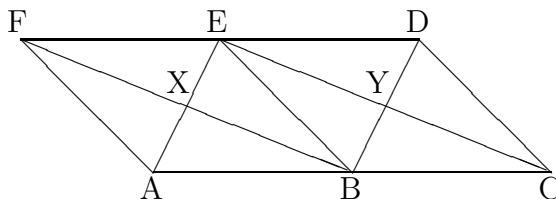


Consider this diagram:



Apply the given information to find a pair of congruent triangles. Use correct notation to tell which two triangles they are and specify the acronym you use, then thoroughly explain how you arrived at your conclusion.

1. Assume *nothing* except that $ABDE$ is a rhombus.
2. Assume *nothing* except that $\overleftrightarrow{FB} \parallel \overleftrightarrow{EC}$ and $\overline{BX} \cong \overline{EY}$.
3. Assume *nothing* except that \overline{AE} and \overline{FB} bisect each other.
4. Assume *nothing* except that $ACDF$ is a rectangle and $\overline{EF} \cong \overline{AB}$.
5. Assume *nothing* except that $\overleftrightarrow{FD} \parallel \overleftrightarrow{AC}$ and X is the midpoint of \overline{AE} .
6. Assume *nothing* except that \overleftrightarrow{BE} is the perpendicular bisector of \overline{AC} .
7. Assume *nothing* except that $\overline{AB} \cong \overline{AF}$ and \overline{BF} and \overline{AE} bisect each other.
8. Assume *nothing* except that $\angle EXB \cong \angle BYE$ and that \overline{BE} bisects $\angle FBD$.

1. $\overline{AB} \cong \overline{BD}$ because they're sides of the rhombus.
 $\overline{AE} \cong \overline{ED}$ because they're also sides of the rhombus.
 Side \overline{EB} is shared.
 So $\triangle ABE \cong \triangle DEB$ by SSS.
2. $\overline{BX} \cong \overline{EY}$ because we're told so.
 $\angle FBE \cong \angle CEB$ because they're alternate interior angles between \overleftrightarrow{FB} and \overleftrightarrow{EC} .
 Side \overline{BE} is shared.
 So $\triangle XBE \cong \triangle YEB$ by SAS.
3. $\overline{AX} \cong \overline{XE}$ because \overline{AE} is bisected.
 $\overline{FX} \cong \overline{XB}$ because \overline{FB} is also bisected.
 $\angle FXE \cong \angle AXB$ because they're vertical angles. (So are $\angle FXA$ and $\angle BXE$.)
 So $\triangle FXE \cong \triangle BXA$ by SAS. (So are $\triangle FXA$ and $\triangle BXE$.)
4. $\overline{EF} \cong \overline{AB}$ because we're told so.
 $\angle FAB \cong \angle AFE$ because they're both right angles (in the rectangle).
 Side \overline{FA} is shared.
 So $\triangle AFE \cong \triangle FAB$ by SAS.
5. $\overline{AX} \cong \overline{EX}$ because \overline{AE} is bisected.
 $\angle FXE \cong \angle AXB$ because they're vertical angles.
 $\angle FEA \cong \angle BAE$ because they're alternate interior between \overleftrightarrow{FB} and \overleftrightarrow{EC} .
 So $\triangle FEX \cong \triangle BAX$ by ASA.
6. $\overline{AB} \cong \overline{CB}$ because \overline{AC} is bisected.
 $\angle ABE \cong \angle CBE$ because they're both right angles (due to perpendicularity).
 Side \overline{BE} is shared.
 So $\triangle ABE \cong \triangle CBE$ by SAS.
7. $\overline{AB} \cong \overline{AF}$ because we're told so.
 $\overline{FX} \cong \overline{BX}$ because \overline{BF} is bisected.
 Side \overline{AX} is shared.
 So $\triangle AXF \cong \triangle AXB$ by SSS.
8. $\angle EXB \cong \angle BYE$ because we're told so.
 $\angle FBE \cong \angle DBE$ because $\angle FBD$ is bisected.
 $\angle AEB \cong \angle YEB$ because they're the third angles of the triangles.
 Side \overline{BE} is shared.
 $\triangle BEX \cong \triangle BEY$ by ASA.