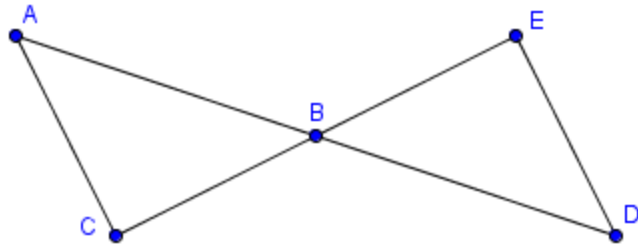Name: _____ Date: _____ Period: _____

Geometry – Proof Practice

1. Given: ∢ CAB ≅ ∢ EDB,

   $\overline{AB} \cong \overline{DB}$

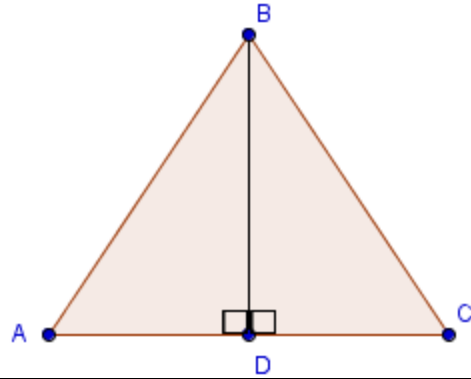   Prove: Δ ABC ≅ Δ DBE

Statement	Reason
∢ CAB ≅ ∢ EDB	Given
$\overline{AB} \cong \overline{DB}$	Given
∢ CBA ≅ ∢ EBD	Vertical angles are congruent
Δ ABC ≅ Δ DBE	ASA Postulate

2. Given: D is the midpoint of $\overline{AC}$, ∢ ADB ≅ ∢ CDB

   Prove: Δ ABD ≅ Δ CBD

Statement	Reason
D is the midpoint of $\overline{AC}$	Given
∢ ADB ≅ ∢ CDB	Given
$\overline{AD} \cong \overline{CD}$	Definition of midpoint
$\overline{BD} \cong \overline{BD}$	Reflexive Property
Δ ABD ≅ Δ CBD	SAS Postulate

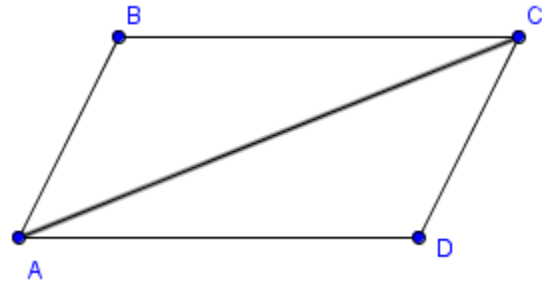3. Given: C is the midpoint of $\overline{AD}$, C is the midpoint of $\overline{BE}$

Prove: $\Delta\ ABC\ \cong\ \Delta\ DEC$
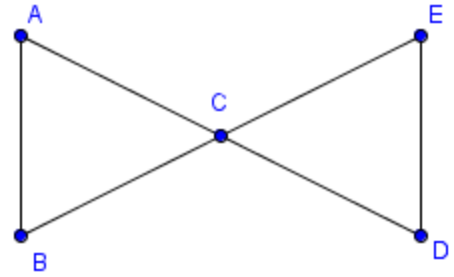
Statement	Reason
C is the midpoint of $\overline{AD}$	Given
C is the midpoint of $\overline{BE}$	Given
$\overline{BC}\cong\overline{EC}$	Definition of midpoint
$\overline{AC}\cong\overline{DC}$	Definition of midpoint
$\sphericalangle ACB\cong\sphericalangle DCE$	Vertical angles are congruent
$\Delta\ ABC\cong\Delta\ DEC$	SAS Postulate

4. Given: $\overline{BC}\ ||\ \overline{AD}$, $\sphericalangle B\ \cong\ \sphericalangle D$

Prove: $\Delta\ ABC\ \cong\ \Delta\ CDA$

Statement	Reason
$\overline{AC}\ ||\ \overline{DC}$	Given
$\sphericalangle ABC\cong\sphericalangle CDA$	Given
$\sphericalangle DAC\cong\sphericalangle BCA$	Parallel lines make Alternate Interior Angles congruent.
$\overline{AC}\cong\overline{AC}$	Reflexive Property
$\Delta\ ABC\cong\Delta\ CDA$	AAS Postulate