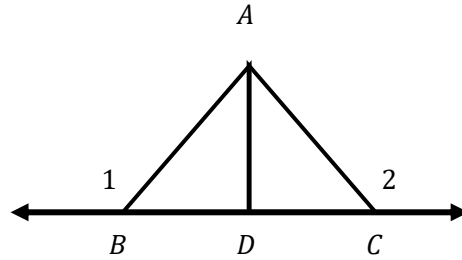


EXAMPLE 3: Given: $\angle 1 \cong \angle 2$, D is the midpoint of \overline{BC} .
 $\angle ADB$ is a right angle,
 $\angle ADC$ is a right angle.

Prove: $\triangle ADB \cong \triangle ADC$



Proof:

STATEMENT	REASONS
1. $\angle 1 \cong \angle 2$	1. Given
2. $\angle ABD$ and $\angle 1$ form a linear pair $\angle ACD$ and $\angle 2$ form a linear pair	2. Definition of a linear pair
3. $\angle ABD$ is supplementary to $\angle 1$ $\angle ACD$ is supplementary to $\angle 2$	3. Linear Pair Postulate
4. $\angle ABD \cong \angle ACD$	4. Supplements to congruent angles are congruent.
5. D is the midpoint of \overline{BC} .	5. Given
6. $\overline{BD} \cong \overline{CD}$	6. Definition of midpoint
7. $\angle ADB$ is a right angle. $\angle ADC$ is a right angle.	7. Given
8. $\angle ADB \cong \angle ADC$	8. Any two right angles are congruent.
9. $\triangle ADB \cong \triangle ADC$	9. ASA Congruence Postulate

For more illustrative examples, please refer to your Math 9 book, pages 259-269.

KINDLE YOUR IDEAS

ACTIVITY

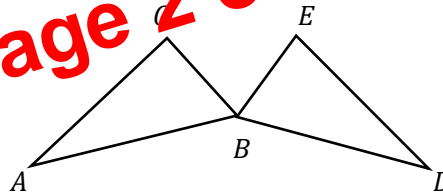
Direction: Complete each proof. Choose your answer inside the box.

CHOICES:

- Any two right angles are congruent.
- Given
- Definition of Perpendicular lines
- Side-Angle-Side Postulate
- Angle-Side-Angle Postulate

1. Given: $\overline{AC} \cong \overline{DE}$
 $\overline{AC} \perp \overline{CB}$, $\overline{DE} \perp \overline{EB}$
 $\overline{CB} \cong \overline{EB}$

Prove: $\triangle ACB \cong \triangle DEB$



Proof:

STATEMENT	REASONS
1. $\overline{AC} \cong \overline{DE}$	1.
2. $\overline{AC} \perp \overline{CB}$; $\overline{DE} \perp \overline{EB}$	2.
3. $\angle C$ and $\angle E$ are right angles.	3.
4. $\angle C \cong \angle E$	4.
5. $\overline{CB} \cong \overline{EB}$	5.
6. $\triangle ACB \cong \triangle DEB$	6.

CHOICES:

- Alternate-Interior Angles are equal
- Given
- Definition of Vertical Angles
- $\overline{AB} \parallel \overline{DE}$
- Angle-Side-Angle Postulate
- $\triangle ABC \cong \triangle DEC$