More Proof Practice Answers

1.

Statements	Reasons
1. $\overline{AD} \cong \overline{CB}$	1. Given
2. $\overline{AD} \parallel \overline{CB}$	2. Given
3. $\angle ABD \cong \angle CDB$	3. Alternate Interior Angles Post.
4. $\overline{DB} \cong \overline{DB}$	4. Reflexive Prop. of Congruence
5. $\triangle ABD \cong \triangle CDB$	5. SAS Congruence Post.

2. We are given $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{AD}$. We know $\overline{AC} \cong \overline{AC}$ by Reflexive Property of Congruence. So, $\triangle ABC \cong \triangle CDA$ by SSS Congruence Postulate.

7. yes, ASA Congruence Postulate; use by Reflexive Property of Congruence
8. yes, AAS Congruence Theorem; use by Vertical Angles Theorem
9. yes; AAS Congruence Theorem

10.

Statements	Reasons
1. B is midpoint of $\overline{AE}$.	1. Given
2. $\overline{AB} \cong \overline{BE}$	2. Def. of Midpoint
3. B is midpoint of $\overline{CD}$.	3. Given
4. $\overline{DB} \cong \overline{BC}$	4. Def. of Midpoint
5. $\angle ABD \cong \angle EBC$	5. Vertical Angles Thm.
6. $\triangle ABD \cong \triangle EBC$	6. SAS Congruence Post.

11.

Statements	Reasons
1. $\overline{AB} \parallel \overline{CD}$	1. Given
2. $\angle ABC \cong \angle DCB$	2. Alternate Interior $\measuredangle$s Thm.
3. $\overline{AB} \cong \overline{CD}$	3. Given
4. $\overline{CB} \cong \overline{CB}$	4. Reflexive Prop. of Congruence
5. $\triangle ABC \cong \triangle DCB$	5. SAS Congruence Post.