**1. In the figure, if OA = OB and OD = OC, which congruence criterion can be used to prove $\triangle AOD \cong \triangle BOC$?**
A. SAS (Side Angle Side)
B. ASA (Angle Side Angle)
C. AAS (Angle Angle Side)
D. SSS (Side Side Side) (A)
**Explanation:** The SAS (Side Angle Side) criterion applies here because two sides and the included angle of AAOD are equal to the corresponding parts of ABOC.

**2. If OA = OB and OD = OC, what can be concluded about AAOD and ABOC?**
A. $\Delta AOD \cong BOC$
B. $AOD \neq BOC$
C. AAOD is similar to ABOC
D. AAOD is a right triangle (A)
**Explanation:** Since OA = OB and OD = OC, by the SAS criterion, we can conclude that AOD ≅ BOC.

**3. If AB is a line segment and I is its perpendicular bisector, what can be said about a point P on I?**
A. P is equidistant from A and B
B. P is equidistant from A and C
C. P lies on AB
D. P is equidistant from B and C (A)
**Explanation:** The perpendicular bisector of AB divides AB into two equal parts, so any point P on I is equidistant from A and B.

**4. What does the perpendicular bisector of a line segment do?**
A. Divides the segment into two unequal parts
B. Divides the segment into two equal parts at right angles
C. Divides the segment into two parts at an acute angle
D. Has no effect on the segment (B)
**Explanation:** The perpendicular bisector divides the line segment into two equal parts at right angles.

**5. If line-segment AB is parallel to line-segment CD and O is the midpoint of AD, what congruence rule can be used to prove $\Delta AOB \cong \Delta DOC$?**
A.SSS (Side Side Side)
B. SAS (Side Angle Side)
C. ASA (Angle Side Angle)
D. AAS (Angle Angle Side) (B)
**Explanation**: The SAS congruence rule applies here because two sides and the included angle of AAOB are equal to the corresponding parts of ADOC.

**Q6. If O is the midpoint of AD, what can be concluded about line-segment BC in the figure?**
A. O is the midpoint of BC
B. O is the midpoint of AB
C. O is the midpoint of CD
D. O lies on BC (A)
**Explanation:** Since O is the midpoint of AD and AB is parallel to CD, O is also the midpoint of BC.

**Q7. Which of the following is a correct property of congruent triangles?**
A. The corresponding sides and angles are equal
B. The corresponding sides are unequal
C. The corresponding angles are unequal
D. Only one side and one angle are equal (A)
**Explanation:** For two triangles to be congruent, all corresponding sides and angles must be equal.

**Q8. If two triangles are congruent, what does it mean about their corresponding sides and angles?**
A. The corresponding sides are different
B. The corresponding angles are equal, but the sides are different
C. The corresponding sides and angles are equal
D. The triangles are not similar (C)
**Explanation**: For congruent triangles, all corresponding sides and angles are equal. 9. What does the term "congruence of triangles" mean?

**9. Which congruence rule applies when two sides and the included angle of one triangle are equal to the corresponding sides and angle of another triangle?**
A. ASA (Angle Side Angle)
B. SAS (Side Angle Side)
C. SSS (Side Side Side)
D. RHS (Right Angle Hypotenuse Side) (B)
**Explanation:** The SAS (Side Angle Side) rule applies when two sides and the included angle are equal.

**10. Which of the following is NOT a congruence criterion for triangles?**
A. SAS (Side Angle Side)
B. ASA (Angle Side Angle)
C. SSS (Side Side Side)
D. SSA (Side Side Angle) (D)
**Explanation:** The SSA (Side Side Angle) criterion is not a valid criterion for congruence of triangles, as it does not guarantee triangle congruence any triangle is always 180°.