

CHAPTER-7 | Triangles

QUIZ
PART-05

1. In the figure, if $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$, what congruence rule can be used to prove $\triangle ADP \cong \triangle BEP$?

- A. SAS (Side Angle Side)
- B. ASA (Angle Side Angle)
- C. SSS (Side Side Side)
- D. RHS (Right Angle Hypotenuse Side) (B)

Explanation: The ASA rule (Angle-Side-Angle) applies here because the two angles and the included side of $\triangle ADP$ are equal to the corresponding parts of $\triangle BEP$.

2. If $\triangle ADP \cong \triangle BEP$, what can be concluded about AD and BE?

- A. $AD = BE$
- B. $AD \neq BE$
- C. $AD > BE$
- D. $AD < BE$ (A)

Explanation: Since $\triangle ADP \cong \triangle BEP$, all corresponding sides and angles are equal, so $AD = BE$.

3. In a right-angled triangle ABC, if M is the midpoint of hypotenuse AB, and $DM = CM$, what congruence rule applies to $\triangle AMC$ and $\triangle BMD$?

- A. SAS (Side Angle Side)
- B. AAS (Angle Angle Side)
- C. SSS (Side Side Side)
- D. RHS (Right Angle Hypotenuse Side) (A)

Explanation: The SAS rule applies here because two sides and the included angle of $\triangle AMC$ are equal to the corresponding parts of $\triangle BMD$.

4. In a right triangle ABC, with M as the midpoint of hypotenuse AB, what is the measure of $\angle DBC$?

- A. 90°
- B. 45°
- C. 60°
- D. 180° (A)

Explanation: Since M is the midpoint of AB and $DM = CM$, by the properties of right triangles, $\angle DBC$ is a right angle.

5. In the figure, $\triangle AMC \cong \triangle BMD$, what can be concluded about CM and AB?

- A. $CM = AB$
- B. $CM > AB$
- C. $CM < AB$
- D. CM is proportional to AB (A)

Explanation: Since $\triangle AMC \cong \triangle BMD$, the corresponding sides CM and AB are equal.

6. In a right triangle ABC, where M is the midpoint of hypotenuse AB, what is the relationship between $\triangle DBC$ and $\triangle ACB$?

- A. $\triangle DBC \cong \triangle ACB$
- B. $\triangle DBC \neq \triangle ACB$
- C. $\triangle DBC$ is an acute triangle
- D. $\triangle DBC$ is a right triangle (A)

Explanation: By the properties of right-angled triangles, $\triangle DBC$ and $\triangle ACB$ are congruent ($\triangle DBC \cong \triangle ACB$).

7. What is the property of point M in a right triangle ABC where M is the midpoint of hypotenuse AB?

- A. M is equidistant from A, B, and C
- B. M is equidistant from A and B only
- C. M is the centroid of the triangle
- D. M is the orthocenter of the triangle (A)

Explanation: In a right triangle, the midpoint M of the hypotenuse AB is equidistant from A, B, and C.

8. In the figure, if $AD = BE$ and $\angle BAD = \angle EAC$, which congruence rule applies to $\triangle ABC$ and $\triangle ADE$?

- A. SAS (Side Angle Side)
- B. ASA (Angle Side Angle)
- C. AAS (Angle Angle Side)
- D. SSS (Side Side Side) (B)

Explanation: The ASA (Angle Side Angle) congruence rule applies since two angles and the included side of $\triangle ABC$ are equal to the corresponding parts of $\triangle ADE$.

9. In $\triangle ABC$, if the hypotenuse is AB and the midpoint is M, what is true about line CM?

- A. CM is perpendicular to AB
- B. CM is parallel to AB
- C. CM is congruent to AB
- D. CM bisects AB (A)

Explanation: Since M is the midpoint of AB in a right triangle, line CM is perpendicular to AB.

10. If $\angle BAD = \angle EAC$, and $AD = BE$, what can be concluded about $\triangle ABD$ and $\triangle EAC$?

- A. $\triangle ABD \cong \triangle EAC$
- B. $\triangle ABD \neq \triangle EAC$
- C. $\triangle ABD$ is right-angled
- D. $\triangle ABD$ is obtuse (A)

Explanation: By the ASA congruence rule (Angle-Side-Angle), $\triangle ABD \cong \triangle EAC$ because the corresponding angles and sides are equal.