Geometry Proofs Printable Worksheet

1. What reason justifies angle 1 congruent to angle 2 if the angles are vertical angles?

2. What reason justifies AB congruent to AB?

3. If two parallel lines are cut by a transversal, what theorem justifies corresponding angles being congruent?

4. Given AB congruent to DE, BC congruent to EF, and angle B congruent to angle E, which congruence rule proves triangle ABC congruent to triangle DEF?

5. If triangle ABC is congruent to triangle DEF, what reason justifies AC congruent to DF?

6. Two right triangles have congruent hypotenuses and one pair of congruent legs. Which theorem applies?

7. Why are alternate interior angles congruent when lines are parallel?

8. Why is it important to match corresponding vertices correctly in triangle congruence proofs?

9. Why is proof organization important in geometry?

Answer Key

1. Vertical Angles Theorem

2. Reflexive Property

3. Corresponding Angles Theorem

4. SAS Congruence

5. CPCTC

6. HL Congruence

7. Alternate Interior Angles Theorem

8. Incorrect vertex matching creates incorrect side and angle relationships.

9. Proofs require logical sequencing where each statement follows from valid definitions or theorems.